

Technical Memorandum No. 5

Annotated Bibliography and Summary of Current Social Impact Analysis
Publications Relevant to Evaluating Impacts of OCS Activity
on Washington and Oregon Indian Tribes

Cooperative Agreement No. 14-35-0001 30508

by

Central Washington University

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EXECUTIVE SUMMARY

In summary, a review of "social impact assessment (SIA)" literature leads us to conclude that: (1) confusing, if not conflicting, terminology is used in titling and writing SIAs; (2) there is no agreement on which disciplines and/or concepts are to be used in conducting SIAs; (3) certain concepts from disciplines other than sociology have not been effectively utilized to refine SIA methodology; (4) SIA practitioners use methodologies that span the full spectrum from loosely structured individualistic approaches to highly structured computer models; (5) there is no consensus among SIA practitioners as to what evaluation method is best for determining the net effect of proposed actions or projects; (6) the SIA forecasting process needs to be further refined if SIAs are to live up to their full potential, and (7) there is a tendency toward agreement on what procedural steps should be followed in conducting SIAs. Thus we argue that SIA, as presently constituted, can be considered a set of procedural steps for studying social change. However, since few studies actually follow all of the prescribed procedural steps from start to finish, it was difficult to determine which studies can legitimately be considered SIAs. Nevertheless, we reviewed all studies that used some of the recommended procedural steps and pertain to Washington or Oregon Indian tribes, including environmental impact statements pertaining to Washington and Oregon Indian tribes. In addition, we reviewed selected SIA methodology and practice publications? selected SIAs pertaining to Native Americans in general, and environmental

impact statements pertaining specifically to Washington and Oregon Indian tribes. These reviews resulted in a three-section annotated bibliography.

The publications included in the annotated bibliography and the professional experiences of the C.W.U. research team were used to compile the following list of petroleum development related issues that may concern Oregon and Washington Indian tribes. This is neither exhaustive nor a hypothesis about the main features of Northwest Indian life. It is intended only to serve as a basis for provoking discussion and self-evaluation.

Basic indicators

- environmental integrity
- nutritional status and health
- access to education, and literacy
- growth and distribution of population
- availability and quality of housing
- personal security against violence
- personal freedom and responsibility

Social organization

- interrelatedness of the community
- cooperation among individuals and families
- sources of personal prestige and power
- Indian control of community affairs
- community decisionmaking processes
- accountability of community leaders
- social divisions, factions, classes

Economic structures

- relative incomes and cost of living
- availability and character of work
- distribution of control over productive resources
- distribution of income within the community
- Indian community income relative to non-Indians
- availability and quality of utilities and amenities
- economic security

Cultural life

- self-identification
- use of indigenous languages
- distinct religious practices
- transmission of traditional knowledge
- participation in regional Indian activities
- status and role of women, elders, craftspeople
- creative and artistic production

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INTRODUCTION

The Work Plan for this contract calls for a "Review of existent social impact assessment (SIA) publications" (Cooperative Agreement 14-35-0001-30508, Work Plan Task Three, p" 10) . This technical memorandum presents the results of our review of both social impact assessment publications and environmental impact statements.

In reviewing the literature it quickly became apparent that exactly what constitutes a social impact assessment is not at all clear. Consequently, we begin this technical memorandum with a brief historical perspective. This is followed by a discussion of social impact assessment (SIA) methodology and a specification of SIA procedural steps. We then present a brief but functional appraisal of the "state of the SIA art." This sets the stage for an evaluation of what SIA literature has to offer in the way of ideas and information for analyzing OCS oil development impacts on Washington and Oregon Indian tribes. This section of the report then concludes with a list of Lease Sale 132 related issues that may concern Washington and Oregon Indian tribes.

The last part of this document is an annotated bibliography. It is separated into three overlapping components: (1) Social Impact Assessment Methodology and Practice in General; (2) Selected Social Impact Assessment Publications Pertaining to Native Americans in General and/or Energy Development; and (3) Social Impact Assessments and Environmental Impact Statements Directly Related to Washington and Oregon Indian Tribes. The references and material contained in these annotated

bibliographies provide support for the positions taken in the first part of this technical memorandum.

SIA HISTORICAL PERSPECTIVE

The National Environmental Policy Act of 1969 is generally recognized as the origin of legal impetus for SIAs . However, the first concerted effort to bring professionals together to structure and improve SIAs did not occur until five years later at the Fifth Annual Meeting of the Environmental Design Research Association (Finsterbusch, Llewellyn, and Wolf, 1983, p. 7). The following year, 1975, a workshop was held in conjunction with the Sixth Annual Meeting of the Environmental Design Research Association. It culminated in the first partial inventory of SIA methodologies (Finsterbusch and Wolf, 1977) . Since then numerous state and federal agencies and individuals have attempted to specify methodological frameworks and devise guidelines for doing SIAs . Most of the results of these efforts are published in a series of Westview Press books, and the most relevant of this series are included in the first section of our annotated bibliography. For now, however, it is sufficient to note that, as a specific research methodology, SIA is a relatively recent phenomenon.

SOCIAL IMPACT ASSESSMENT METHODOLOGY

Exactly what constitutes an SIA is not totally clear; there seems to be no single, concise definition of SIA, at least not one that is agreed upon by most practitioners. Rather than defining the term "social impact assessment," most discussions of SIA conceptual issues begin by describing the intellectual orientation of SIA and/or what SIA methodology entails. These discussions reveal consistency on at least three points: (1) SIA is primarily concerned with the processes and products of human interactions; (2) in addition to sociology, SIA draws freely upon other social science disciplines; and (3) SIA is "anticipatory" research. In fact, Millsap (1984) maintains that SIA can be described as "anticipatory applied social science" (p. 2) .

Sociology is often considered the lead or dominant discipline in conducting SIAs, but which other disciplines are to be utilized and how they are to be integrated with sociology usually is not clearly articulated.

It is a slight digression, but to further complicate matters, the phrase 'Socioeconomic impact assessment' is sometimes used as a synonym for "social impact assessment." For example, the second chapter of an excellent book titled Social Impact Assessment Methods begins with the sentence "Some people argue that socioeconomic impact assessment [emphasis added] is basically about political change" (Finsterbusch, et al., 1983, p. 35) . One of the books in the same Westview Press, Social Impact Assessment Series is titled The Socioeconomic Impact of Resource Development: Methods of Assessment (Leistritz and

Murdock, 1981). In fact, this book avoids using the acronym SIA in both the Preface and the first chapter, "Introduction: Dimensions of Impact Assessment," and for a good reason--a reason that gets us back to a fundamental question: which disciplines are utilized and how are they integrated into SIA research?

Within the book by Leistritz and Murdock (1981), "Social Impact Assessment" is the last of five "Impact Assessment" chapters. The others are: "Economic Impact Assessment"; "Demographic Impact Assessment"; "Public Service Impact Assessment"; and "Fiscal Impact Assessment." The previously mentioned 1983 book, Social Impact Assessment Methods, includes chapters titled: "Ethnography"; "Demographic Change Assessment"; and "Psychosocial Assessment." Another book in the Westview Press series includes case studies that utilize anthropological-- including ethnographic--approaches to SIA research (Millsap, 1984) . And finally, Elkind-Savatsky (1986), in the preface to a book she edited, says:

Assessing the social impact of rural development projects, the contributors to this book develop a cultural model based on theories of political economy and apply that model to a consideration of such factors as geography, language, economics, religion, and cultural patterns of domination. They focus on the interrelationship between cultural factors and social stratification. Their model serves as a means for moving from abstract discussions of political economy toward a practical application of social impact assessment. (p. iii)

Why this litany of book contents? It is one way to show the diversity of approaches to SIA research. More specifically, each of the books cited above contains imaginative and useful ideas, but they, along with other SIA literature, make it clear that there is no discernible consistency in the way that various

disciplines are integrated into **SIA** research methodology.

(Noteworthy and useful attempts to address this topic include **Finsterbusch**, et al., 1983, Ch. 3; and Leistritz and **Murdock**, 1981, Ch. 7.) In fact, there seems to be no agreement about which disciplines are most useful in conducting SIAs. Each author seems to have his or her own set of priorities--probably based in large part on their own professional training. Perhaps SIAs are so diverse in nature that systematic and consistent integration of social science disciplines into SIA research methodology is precluded, but we are left with the impression that more could be done to homogenize this aspect of SIA methodology and that it would be worthwhile.

In general, a great deal of effort has been devoted to refining SIA methodologies. Nevertheless, there seems to be no agreement on what "methodologies" are best for conducting SIAs. Practitioners can be categorized as 'participatory **oriented**" or "numerically oriented," and the range of methodologies they use spans the full spectrum from loosely structured individualistic approaches to highly structured computer models (**Finsterbusch**, et al., 1983, pp. 35-54; Leistritz and Murdock, 1981, pp. 207-225.)

As a summary statement, consider the following:

What one does in SIA is assess the social impacts. If this seems to belabor the obvious, it must be said that how assessments are done varies widely. SIA is a **multimethod** approach, and its analytic tasks . . . require assessors to draw selectively from the full range of social research methodologies and techniques. Moreover, each impact situation has unique features, and general methodologies must be tailored to its dimensions. While no one best way has been (or can be) devised to fit all circumstances and cases, there is growing professional consensus and methodological convergence on what may be described as the "**main pattern**" of assessment steps. . . . (**Finsterbusch**, et al., 1983, p. 16).

Although this could be considered a rationalization or apology for the state of the art, it is a defensible and particularly useful statement. It succinctly recognizes the issues we have raised to this point, provides a defense of SIA being a "multimethod approach," and explicitly recognizes that there **is** a "growing professional consensus" concerning one aspect of SIA research, i.e., the general procedures to be followed in conducting SIAs.

WOLF'S PROCEDURAL STEPS

As summarized by **Finsterbusch** (1985), 51A procedural steps specified by Wolf are: Scoping, Problem Identification, Formulation of Alternatives, Profiling, Projection, Assessment, Evaluation, Mitigation, Monitoring, Management, and Bottom Line (**Finsterbusch**, pp. 200-201). In general, **Branch**, et al., (1984) seem to agree (pp. 53-222). Furthermore, **Finsterbusch** (1985), one of the leading 51A authorities, endorses Wolf's "general methodology" by adopting it for his appraising of the 51A art (pp. 200-201). Thus there is substantial support for Wolf's previously cited contention that, "There is growing professional consensus and methodological convergence on what may be described as the 'main pattern' of assessment steps . . ." (**Finsterbusch**, et al., 1983, p. 16).

STATE OF THE SIA ART AND RELATED IMPLICATIONS
FOR IDENTIFYING INDIAN SIAs

There is no question that "SIA work has improved considerably in its short history . . . " (**Finsterbusch**, 1985, p. 218). **Wolf's** general SIA methodology with its specification of "assessment steps" and associated "analytical operations" is a particularly useful focal point around which recent SIA methodological developments have coalesced. (For a summary of **Wolf's** general methodology in table form, see Finsterbusch, 1985, pp. 200-201.) SIA methodology and applications also provide a valuable reminder to researchers from other disciplines, like economics and psychology, that social groups and group dynamics should be an integral part of analyses of social change. Furthermore, increasing interest in SIA research and methodological developments reflects a growing consensus that assessments of social change should be integral parts of project planning, design, and evaluation. There are a few notable exceptions, but most SIAs continue to view social change from the perspective of the social scientist rather than from the perspective of the community being studied. For SIAs of Native American communities such ethnocentrism is at best incomplete and at worst risks serious errors.

In a 1983 appraisal of the state of the SIA art, Moore, et al. argue that:

The problem of assessing the socioeconomic impacts of western energy developments is a relatively new one. In the last five years, however, there has been a very rapid increase in the number of methodologies available. To a large degree, these methodologies have been taken from other problem areas (e.g., regional economics, cost/revenue analyses for suburban land developments, social indicators,

and technology assessment) and adapted. (Rossini and Porter, 1983, p. 225)

While this is an accurate statement, we **would** like to note that SIA methodological developments have **also** failed to utilize certain concepts from other disciplines, For example, "evaluation, " which **is** described by Finsterbusch (1985) as ". . . the SIA step that judges the value of both positive and negative impacts" (p. 209), encompasses issues that have long been a concern of the branch of economics called welfare economics. And yet, leading SIA authorities have paid little or no attention to what welfare economics has to say about such things as the critically important distinction between "efficiency" and "distribution" aspects of proposed projects.

In general, SIA methodology does not seem to be based on a coherent comprehensive body of theory; rather it is a set of procedural steps that, in application, entail the use of a wide variety of analytical techniques to study social change.

Equally serious is the problem that SIAs have not been particularly accurate in forecasting social changes. Again, we quote Moore, et al. (1983):

In spite of the rapid growth, both in number of alternatives and in the level of sophistication of the alternatives, the forecasting process remains a primitive art. This is partly due to the newness of the field and the absence of longitudinal data on different previous experiences. However, it is mostly the result of the nature of the problem. (p. 225)

The authors go on to specify four classes of uncertainty that cause serious problems for SIA practitioners. For this report, however, it is sufficient to note that "Projection" is one of the procedural steps specified by Wolf and, if SIAs cannot

be depended upon to accurately forecast or project into the future, their usefulness will obviously be seriously limited.

In summary, a review of SIA literature leads us to conclude that: (1) confusing, if not conflicting, terminology is used in titling and writing SIAs; (2) there is no agreement on which disciplines and/or concepts are to be used in conducting SIAs; (3) certain concepts from disciplines other than sociology have not been effectively used to refine SIA methodology; (4) SIA practitioners use methodologies that span the full spectrum from loosely structured individualistic approaches to highly structured computer models; **(5)** there is no consensus among SIA practitioners as to what evaluation method is best for determining the net effect of proposed actions or projects; (6) the SIA forecasting process needs to be further refined if SIAs are to live up to their full potential, and (7) there is a tendency toward agreement on what procedural steps should be followed in conducting SIAs. Thus we have argued that SIA, as presently constituted, can be considered a set of procedural steps that, in application, entail the use of a wide variety of analytical techniques to study social change.

This brings us to a major conclusion, one directly related to the central theme of this section of our report; even though there is a strong tendency toward agreement upon the list of steps that constitute SIA methodology, this is of limited help in identifying SIA studies. The reason is simply that few, if any, studies follow the prescribed procedural steps from start to finish. Furthermore, most studies do not clearly identify the

steps that have been followed, nor do they consistently adhere to the analytical operations Wolf specifies for each step. These generalizations hold true even for most of those studies that have **"SIA"** or **"Socioeconomic"** in their titles.

In a related observation (one intended to set the stage for his definition of **SIA**), **Finsterbusch** (1985) says: "Social impact assessment is a current buzz word, and is used to describe almost any type of research that looks **at** social factors" (p. 194) . This all **leads** to a more general conclusion; there is no set of objective criteria for deciding whether a given study is or is not an SIA.

Since there is no set of objective criteria for determining which studies are and which are not SIAs, the location and identification of Indian SIAs was somewhat inefficient and required our research team to make judgments about which studies to include in our annotated bibliographies. Thus we reviewed all the studies we could locate that both used some of Wolf's procedural steps and pertain to Washington or Oregon Indian tribes. In addition, we reviewed selected SIAs pertaining to Native Americans in general, particularly those related to energy development in the eleven western states. These and selected SIA methodology publications are included in the annotated bibliographies that comprise the last section of this report.

ENVIRONMENTAL IMPACT STATEMENTS

Washington and Oregon environmental impact statements (**EIS's**), including draft environmental impact statements, were reviewed in order to identify those that contain references to impacts on Native Americans and their interests. Unfortunately **ly**, there is no single reference list or library that contains all potentially relevant **EIS's**. Thus Government Document sections in several individual libraries **were** searched document by document for relevant **EIS's**. Contributing to the difficulty of locating references to impacts on Native Americans is the fact that many **EIS's** are not adequately indexed and references to Native Americans are difficult to locate within the document.

In addition to **EIS's**, relevant environmental impact assessments, identified in a variety of ways, were ordered from issuing government agencies. Those that have been located in libraries and received to date are included in the annotated bibliography section of this report. Others may be added before this document becomes an appendix in the Final Report for this contract.

OCS PETROLEUM DEVELOPMENT RELATED ISSUES THAT MAY CONCERN
WASHINGTON AND OREGON **INDIAN** TRIBES

Although conclusions concerning the state of the SIA art may vary, there seems to be universal agreement on one point; in both intent and practice, SIAs are designed to study **social** change. In turn and in our judgment, social change resulting from a change in a community's environment can be separated into at least three stages. ("Environment" is used here in the broadest sense--that is, the total physical, biological, socioeconomic, and cultural universe within which a human community lives.) The three stages are: (1) changes in a community's environment that result directly from a project, in this case OCS petroleum development; (2) responses or adaptations to changes in the community's environment, both transitory and permanent; and (3) evaluation of the aggregate, direct and indirect, changes on the community in question. The evaluation stage may be particularly controversial and contentious, but formal as well as informal evaluations are regularly made from a variety of individual and group perspectives. From an analytical standpoint, understanding all three stages and their relationships to each other is critically important and can be facilitated by models of social change and defensible evaluation procedures.

Modeling social change has not been a central concern of the SIA methodology literature and, as noted earlier, there is no consensus among SIA practitioners as to what evaluation method (or procedure) is best for determining the net effect of social

changes. Furthermore, an analysis of existing social change models and evaluation procedures is well beyond the scope of this report. However, for perspective, a few general comments about social change and modeling and evaluation procedures are warranted.

Modeling Social Change

Predicting social change based on knowledge of environmental changes can be facilitated by a model of the way in which a particular society tends to respond or adapt to its environment. The extent to which this adaptation follows universal patterns or varies culturally is of course one of the great unresolved theoretical questions of social science. It is fair to say only that the use of universal models involves greater risk, while the search for **particularistic** models comes at greater research costs .

Social change models can be based on observations of past behavior, or on the beliefs of people in the community under study about the way in which their own society behaves (**"ethnoscience"**). Both approaches entail some risk since the number and range of observations is necessarily limited, and probably does not include the very changes we are interested in. The observer, whether a "scientific" outsider or a knowledgeable insider, cannot perform experiments and is limited by what has actually happened in the past, or is remembered. What is remembered, in turn, is affected by his or her own perceptions. Moreover, models based on observed behavior and on ethnoscience

often disagree, that is, **peoples'** beliefs about the nature of their society are not always consistent with what they actually do.

The best solution is, then, one that considers both observed and reported behavior: what people do, and what they say they do or think that they do. Behavior and beliefs interact and affect one another. When they conflict strongly, change is likely. Anticipating changes of this kind cannot be based exclusively on theory. However, people themselves can be given opportunities to confront and try to reconcile contradictions in their conduct and beliefs through discussion or "**thought** experiments" organized as part of the research design.

This kind of structured inquiry, conducted with focus groups or entire small communities is distinctly different from the **so-**called **delphi** method of forecasting, which is based on the opinions of selected experts (observers) rather than actors in the social process. Delphi methodology is least defensible when observers and actors come from different cultures and lack a base of common values and beliefs. Our field research will lay a foundation for the kind of structured inquiry being advocated here. The knowledge of Indian perceptions gained during our key informant interviews and the comparison of Indian perceptions with what we learn from secondary data can provide a framework for organizing focus group and/or community discussions. This inter-cultural dual analysis should also facilitate the identification of appropriate groups and legitimate topics for attempts to reconcile any contradictions in behavior and beliefs

revealed by the inquiry. In turn, these structured discussions can be used to facilitate understanding fundamental concerns and predicting how tribes will be affected by environmental changes.

Evaluation

After predicting how a community or tribe may be affected by environmental changes, the next step is to evaluate the anticipated response(s) . In this process it is critically important to use a community's own standards of value rather than general assumptions or "experts"! assessments.

Although some changes are clearly negative, such as loss of health and life, the net effect of others may vary culturally. Preferences for the use of living space provide an example. Cluster housing may be seen as an advantage by a close-knit extended family or clan, and a source of misery for a group of unrelated and independent families. Whether the consolidation of housing units will preserve or strengthen social relations, or lead to increased conflict, depends on the social organization of families and the community.

For culturally diverse small communities, such as Indian tribes, the most reliable evaluation procedure is to ask those affected by proposed environmental changes for their opinions. Asking people whether certain changes would be good or bad is a beginning. Rank-ordering of possible changes from best to worst can provide a basis for studying contingencies, trade-offs, and the net social value of a number of simultaneous and interrelated changes. This technique may be misleading, however, in the case

of more traditional Indians who do not make clear distinctions among economic, social, and cultural activities. Thus the task of rank-ordering such interrelated phenomena may seem strange or inappropriate to them.

Furthermore, random selection of individual respondents may not provide an adequate basis for prediction if community decision making processes are strongly influenced by a few key leaders. **In** these cases, **leaders'** views may require special attention.

In summary, these considerations suggest an "inquiry" approach when evaluating the effect of environmental change on small communities. A model built through interaction with the people themselves is likely to be more reliable than one produced by external "scientific" means, and has the added virtue of involving people directly and effectively in decisions that affect them.

Summary

SIA can be expensive and still fail to produce statistically reliable results comparable in reliability to studies of change in the physical environment or, for that matter, macroeconomic forecasting. This may explain why so little research effort is allocated to social questions in **EIS** preparation--the benefit/cost ratio may be perceived to be very low. On the other hand, the lower predictive power of social-impact models does not excuse the failure of many studies to meet a minimum threshold of sound methodology. Establishing a process of inquiry and self-

evaluation, which can facilitate a more objective (observational) analysis by others, offers the best mix of efficiency and reliable results.

This process itself will gradually redefine what is relevant and needs further study. The role of the researcher is to "start the ball rolling," rather than to set bounds on the issues or factors to be considered. A preliminary list of concerns can be used to provoke a critical response from the community, and to begin the process of self-study and self-evaluation.

Relevant Concerns

This being said, past research experience can serve as a guide to the kinds of concerns or factors that would need to be included, at a minimum, in any assessment of social impacts among present-day Indian communities in the Pacific Northwest. This is neither exhaustive nor a hypothesis about the main features of Northwest Indian life. As suggested earlier, it is intended only to serve as a basis for provoking discussion and self-evaluation.

Basic indicators

- environmental integrity
- nutritional status and health
- access to education, and literacy
- growth and distribution of population
- availability and quality of housing
- personal security against violence
- personal freedom and responsibility

Social organization

- interrelatedness of the community
- cooperation among individuals and families
- sources of personal prestige and power
- Indian control of community affairs
- community **decisionmaking** processes
- accountability of community leaders
- social divisions, factions, classes

Economic structures

- relative incomes and cost of living
- availability and character of work
- distribution of control over productive resources
- distribution of income within the community
- Indian community income relative to non-Indians
- availability and quality of utilities and amenities
- economic security

Cultural life

- self-identification
- use of indigenous languages
- distinct religious practices
- transmission of traditional knowledge
- participation in regional Indian activities
- status and role of women, elders, **craftspeople**
- creative and artistic production

These issues are primarily concerns about the direct impact on individuals, their communities, and their cultures. They may in turn precipitate secondary impacts like increased demand for social services, decreases in tax revenues, or changes in voting patterns. Secondary impacts reflect the ability of existing institutions to respond to, and cushion, the changes that affect people directly. As such, they need to be kept in mind when forecasting the magnitude of primary impacts. For example, increases in health hazards will not likely be as great if local governments have the resources and ability to strengthen health services. Significantly, the ability of institutions to adjust to social change is itself a function of fundamental factors such as social organization and economic status.

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ANNOTATED BIBLIOGRAPHY

In addition to standard secondary data investigation and search procedures, we conducted a computer search. The Social Science Citation Index (1972-1989), National Technical Information Service Index (1964-1989), GPO Monthly Catalog (1976-1989), and PAIS (Public Affairs Information Service) (1976-1989) were each searched using the following key words: **SIA**, Indian, Native Americans, energy development. This search yielded no publications.

Social Impact Assessment Methodology and Practice in General

Branch, **Kristi**, Douglas A. Hooper, **James Thompson**, and **James Creighton**. Guide to Social Assessment: A Framework for Assessing Social Change. Boulder, Colorado: Westview Press, 1984.

There are several Westview Press books on SIA and their use; they are referred to as "The Social Impact Assessment Series." As a group these publications provide perspective on the historical evaluation of social impact analysis, explain how **SIA's** are conducted and provide examples of SIA applications. The most comprehensive in describing what SIA is and how to use it is the book by Branch, et al. It is divided into three sections: an overview of general social impact assessment principles, a detailed description of assessment processes, and a section containing specific methods and techniques.

Among other things, Section I describes the social decision making process as being made up of five steps: (1) problem identification and scoping; (2) formulation of alternatives; (3) evaluation of alternatives; (4) formulation of mitigation measures and evaluation of mitigation alternatives; and (5) design of an implementation plan and monitoring program. It maintains that the social assessment process is based on three premises: "(1) change occurs through a process of cause-and-effect relationships; (2) these relationships can be analyzed; and (3) this analytic process can be used effectively to forecast social change, within the limitations imposed by the complexity and emergent nature of human response and social organization" (p. 14) . And, as in the case of the "with and without" principle of economics, the authors argue that, **"Inherent** in the assessment process, is a comparison of what will happen if a proposed action occurs and what will happen if it does **not**" (p. 14) .

As described in this and other publications, social assessment is a team effort with someone other than the "social assessor" having responsibility for determining the economic, demographic, land use, facilities, services, and fiscal effects of the proposed action. "Primary responsibility for much of this analysis seldom falls upon the social **assessor**" (p. 16) . In general, the authors see the following categories as separate but interrelated components of an assessment: social assessment, economic/demographic analysis, facilities/services/fiscal analysis, public involvement effort, and the assessment of the physical environment.

The core of this book is "Section II: A Framework for Social **Assessment**"; it elaborates in detail an analytical process that parallels the five decision-making steps listed above. Flow charts, check lists, and matrices enhance the presentation and facilitate understanding. A lengthy chapter (Chapter 8) titled "Description of the Existing Environment" is particularly detailed and contains a variety of useful ideas. Among other things, it reveals differences between sociologists and other social scientists in the way they define "Community Resources." It also analyzes relationships among "**resource**" categories.

The book ends with practical introductions to "**Organizing and Conducting a Field Trip**," "Sampling, Surveying, Interviewing, Questionnaire Design, and Data Analysis," and "Use of Secondary Data Sources."

Carely, Michael L., and Eduardo S. Bustelo. Social Impact Assessment and Monitoring; A Guide to the Literature.
Boulder, CO: Westview Press, 1984.

Carely and **Bustelo** provide a useful introduction to the SIA literature. They begin their literature review with a description of social impact assessment and a discussion of methodological and political issues. The book is then divided into four sections. The first section is concerned with sub-topics of general interest in the SIA field, such as public participation, policymaking, cumulative impact assessment, and case studies. The second section looks at related areas, such as social forecasting and environmental impact assessment, and explores methods and problems of different approaches. The third section details references related to developing and less developed countries, and the fourth section discusses relevant periodicals and bibliographies. Each chapter provides an annotated list of basic reading recommendations related to the chapter topic as well as a list of further recommended readings and reference materials. Unfortunately, the references included were not specific to Washington and Oregon Indian tribes.

Dickens, Roy S., Jr., and Hill, **Carole E.** Cultural Resources: Planning and Management. Boulder, Colorado: Westview Press, 1978.

With two possible exceptions, this publication has little to offer those responsible for conducting SIAs today. It is a compilation of papers presented at a symposium titled "Cultural Resources: Planning and **Management.**" The possible exceptions to this generalization are: (1) A section, Part III, that provides information mostly based on descriptive **antidotal** evidence about the relationship between government agencies and contracting researchers. This information, of course, is of **only** general interest and of little technical value; and (2) a chapter by Jones on family impact assessment that among other things discusses the ecological perspective as a suitable macroeconomic framework for **"family impact analysis."**

Elkind-Savatsky, Pamela D. (Ed.). Differential Social Impacts of Rural Resource Development. Boulder, CO: Westview Press, 1986.

In the preface titled "About the Book and Editor," Pamela D. Elkind-Savatsky provides a concise summary of this book's contents.

Assessing the social impact of rural development projects, the contributors to this book develop a cultural model based on theories of political economy and apply that model to a consideration of such factors as geography, language, economics, religion, and cultural patterns of domination. They focus on the interrelationship between cultural factors and social stratification. Their model serves as a means for moving from abstract discussions of political economy toward a practical application of social impact assessment.

The book begins with theoretical essays developing the conceptual model, followed by a review of the relevant social impact assessment literature and case studies of rural projects that have affected such socially disadvantaged groups as laborers, women, ranchers, and ethnic minorities. In the final two chapters, the authors apply and test the cultural model, using the findings of the case studies, and draw new conclusions about the differential effects of rural resource development projects. (p. iii)

In the Introduction chapter of the book, Elkind-Savatsky goes on to say:

The social impact assessment literature has previously included little discussion of the structure of societal **subpopulations** or of the manner in which inequities in society help to determine the nature and degree of impacts on particular groups within a community. Instead, the

literature has considered each development project in terms of either advantaged and disadvantaged individual residents or isolated communities. The previous emphasis has been upon the potential macroeconomic and demographic effects of a particular project on a particular region. The contributors to this volume have taken a more complex view, one that approaches the impacts of particular projects in terms of the **projects'** interactions with the whole of society and the societal system, one that predominantly considers the structure of the inequality in society and the workings of the political economy. (pp. 1-2)

For those doing Indian **SIA's** this publication makes a case for and reminds researchers that:

1. Most societies contain subcultures with unique characteristics that may or may not be shared by the dominant culture.
2. In addition to race (or ethnicity), the authors argue that occupation and gender are prime determinants of cultural diversity which, in turn, give identity to subcultures.
3. The distribution of development induced rewards and sacrifices, and resulting inequalities among subcultures, to a significant extent, are determined by the politically and economically dominant culture.
4. Strong governments (both democratic and totalitarian) often go beyond the interests, demands, and wishes of social groups within their jurisdictions.
5. Social scientists have incorrectly viewed "government" as simply the arena in which **public** policy **decisions** are made; government itself should be considered an independent actor. "The state not only has its own agenda, but it also sets the most important part of the agenda for society-centered change-promoting and change-resisting forces . . ." (p. 264) .

Finsterbusch, Kurt. "State of the Art in Social Impact Assessment ." Environment and Behavior, 17(2) , 1985, 193-221.

This article is a comprehensive review of the literature and assessment of the SIA art as of 1985. To refine the definition of **SIA**, Finsterbusch lists five types of policy research and maintains that SIA is "distinguished" from these "other types" of policy research (p. 194). Exactly how SIA and other types of policy research differ is not clearly delineated, but this is not critical for the critique that is the core of this article.

Asserting that SIA is "a mode of analysis that could be used for any potential government or nongovernment action," the author lists five subfields of SIA: (1) new technologies; (2) construction facilities; (3) environment use plans; (4) environmental designs; and (5) development projects in the third world (p. 197). Each of these subfields is briefly described. Later, **Finsterbusch** devotes an entire section to what he considers the "**largest** and most **developed**" SIA subfield, "constructed facilities" (p. 197). Examples of what he means by constructed facilities include highways, dams, power plants, airports, and pipelines. This component of the article **is** organized around seven "socioeconomic conditions or changes." They are:

- (1) dimensions of the project
 - (2) existing social and economic conditions
 - (3) economic changes
 - (4) demographic changes
 - (5) supply/demand changes in housing, private goods and services, and public goods and services
 - (6) changes in community structure (government, intergroup relations, organizations)
 - (7) changes in quality of life or social well-being
- (PP. 201-202)

The next two sections of the article describe "**special research techniques**" (profiling, regional statistical modeling, scenario and **delphi** projections, mini surveys, **visual** impact techniques, the cross impact matrix, subjective weighting, interpretive structural modeling, and risk analysis) and what the author calls "new directions in SIA methodology" (before/after impact studies, specification and testing of commonly accepted impact hypotheses, better identification of positive social impacts, advances in the quantification of nonmarket impacts, advances in public participation processes, extending the impact assessment time frame, and using SIA in the monitoring function) .

Finsterbusch concludes this article by asserting, "**SIA** work has improved considerably in its short history and gained some badly needed respectability. Now it needs to be fashioned into a truly valuable decision-making **tool**" (p. 218) .

Finsterbusch, Kurt, Lynn G. **Llewellyn**, and **C. P. Wolf (Eds.)**.
Social Impact Assessment Methods. Beverly Hills: Sage Publications, 1983.

An evaluation of SIA is one of the most useful contributions of this book. Much of this evaluation, however, is implicit and requires a critical appraisal of fragments offered by several authors of different persuasions. After an overview of the **book's** contents, this review will conclude with a brief comment on the 1983 "**state** of the SIA **art**" as gleaned from this publication.

In the introduction, Llewellyn says, "This book is an attempt to go beyond previous works on methodology--to inventory systematically a broad spectrum of techniques and methods with proven utility" (p. 7). In this vein the first of four major sections discusses "Frameworks and Methodological Approaches." Wolf provides a useful framework for ensuing discussions by specifying the "Assessment Steps" (scoping, problem identification, formulation of alternatives, profiling, projection, assessment, evaluation, and mitigation) and associated "Analytical Operations" that, in his view, constitute SIA. The other two chapters in this section describe and critique a variety of SIA methodologies, including computer models.

Part II describes two primary data collection methods: survey research and ethnography. Part III discusses secondary data collection methods. Both of these sections provide useful information but are written primarily for the novice.

The final section of this publication is composed of six chapters on special methodologies: Computerized Socioeconomic Assessment Models; Community Needs Assessment and Techniques; Psychosocial Assessment; Causes and Correctives for Errors of Judgment; Visual Quality and Visual Impact Assessment; and Evaluation Methods. (The Introduction provides useful, brief summaries of each chapter listed here.)

From a broader perspective this book views SIA as "anticipatory" research that addresses the "bottom line" question: Who benefits and who loses from proposed actions? Both the structure and content of the book make it clear that **"SIA** draws freely on all social science disciplines. . ." (p. 16) . In fact, it seems that demography and economics are relied upon as much or more than traditional sociology. A comparison of benefits and costs is referred to at several junctures. And yet, there is no clear specification of the relationship between benefit/cost analysis as defined by economists and SIA. (One possible exception is **Finsterbusch's** brief discussion of **"standardized costs or benefits,"** p. 306).

The final chapter of the book reviews nineteen **"ideal"** procedures for evaluating "decisions involving multiple criteria" (p. 285) . This chapter is a useful reference for anyone addressing the challenging question of how to actually decide whether the expected "benefits" outweigh the expected "costs" of proposed actions or projects. It also implicitly makes it clear that there is no consensus among SIA practitioners as to what evaluation method is best for carrying out the "Evaluation" step of SIA. This leads to the perplexing question: Once you have done an SIA, how do you arrive at a consensus concerning what it tells you about the net effect of a proposed action or project?

Geisler, Charles, C. Rayna Green, Daniel Usner, and Patrick West. Indian SIA: The Social Impact Assessment of Rapid Resource Development on Native Peoples. Ann Arbor, MI: University of Michigan, 1982.

This book is divided into four segments: Section I explores ways in which SIA can be adapted to unique Indian circumstances; Section II presents Indian SIA studies done in the United States; Section III presents Canadian Indian SIA studies; and Section IV is composed of Latin American indigenous peoples SIA case studies.

The first two chapters of Section I contain useful suggestions about how to structure Indian SIA studies. Craig and Tester's discussion of the role of "institutional analysis" and explanation of why institutional analysis is particularly relevant when doing Indian SIA provides useful perspective for any study of contemporary Indian societies. Chandler C. Smith's approach to evaluating natural resource development projects includes check lists and matrices that can be used to identify projects that are not feasible and projects that embody unacceptable impacts. He uses the Idaho Nez Perce Tribes' approach to integrated projects as one of three examples, but his "brief overview" provides no data or specific information for use in evaluating OCS resource development projects.

Leistritz, F. Larry, and Steven H. Murdock. The Socioeconomic Impact of Resource Development Methods for Assessment. Boulder, Colorado: Westview Press, 1981.

This book is a multidisciplinary "encyclopedia" of model specifications, estimation techniques, data requirements! and outputs available from different approaches to county and **subcounty** impact assessments. It includes separate chapters on "Economic Impact Assessment," "Demographic Impact Assessment," "Public Service impact Assessment," "Fiscal Impact Assessment," "Social Impact Assessment," "Interfacing Socioeconomic Dimensions," and "Computerized Impact Projection Models." The book concludes with a chapter on "Use of Assessments in the Policy Process." The summary chapter appraises the "State-of-the-Art in Socioeconomic Impact **Assessment**" and specifies the "Needs for Further Refinement and Development." This book does not include anthropological/ethnographic approaches to impact assessment. Although it was published nearly a decade ago, it is still an excellent introduction to the multidisciplinary dimensions of impact assessments.

Millsap, William (Ed.). Applied Social Science for Environmental Planning. Boulder, Colorado: Westview Press, 1984.

The basic question addressed by this publication is: "How can applied social science contribute to the process of environmental **planning?**" (p. 3). It describes a wide array of theoretical and

methodological approaches. In fact, all of the chapters are applied and interdisciplinary in nature, and most include case study material.

After quoting a summary of its contents, three chapters will be reviewed.

Section one discusses the problems frequently encountered when theory must be applied in the real world. Different assumptions about the world present obstacles that must be recognized and adroitly handled if planning is to be accomplished. Planners also operate at different levels of organization. Frequently overlooked or underassessed by planners is the local level--neighborhoods, communities, and their unique world views. The second section examines how these areas should be of concern to planners. Section three addresses how socioeconomic development can be viewed quite differently in various parts of our nation--depending on who's doing what to whom. The final section of this book presents an update on the current state of the art in environmental planning; how various government agencies have responded to **NEPA**, problems and mitigation procedures, and how social impact assessment may eventually turn out to be our best friend. (pp. 3-4)

To make their points, two chapters utilize case studies of Indian communities. These two case studies are discussed in the next section.

Palinkas, Lawrence A., Bruce Murray Harris, and John S. Petterson. A Systems Approach to Social Impact Assessment: Two Alaskan Case Studies. Boulder, CO: Westview Press, 1985.

Using a broad systems framework and systems analysis, the authors develop a model and use it to conduct SIAs for two Alaskan communities. Systems theory is defined as "an intellectual tool for studying the relation between the structures of a system and its functioning" (pp. 8-9) .

In broad terms, this book is particularly useful because it not only presents an intellectually rigorous systems analysis model, but it shows how it was applied in two different cases. Thus , the advantages and disadvantages of their approach and opportunities for improving it can be more readily discerned.

The research and findings presented in this book are, for the most part, the result of work done for the Social and Economic Studies Program of the Mineral Management Service, Alaska OCS Region. The communities studied, **Unalaska** and Cold Bay, have racially mixed populations with approximately 14 and 10 percent respectively being Native Alaskans. (In the case of **Unalaska**, the Native Americans are primarily **Aleutes**, most of whom inhabit that portion of **Unalaska** called Unalaska Village.) The "Physical

Environment" section of each case study includes a brief and very general description of the availability and use of plant and animal resources. Neither of the case studies were intended to be SIAs of Native American communities as separate entities; they are studies of mixed race small communities. As such they provide no specific information pertaining to Pacific Northwest Indian cultures, but the conceptual framework and analytical procedures provide valuable insights for researchers doing SIAs.

Selected Social **Impact** Assessments **Pertaining** to Native Americans
in General and/or Energy Development

Bird, Mark. A Social Assessment on the Zuni Indian Reservation. In Public Involvement and Social **Impact** Assessment, Gregory A. Daneke, Margot W. Garcia, and Jerome **Delli Priscoli**, eds. Boulder, Colorado: Westview Press, 1983.

A social assessment of Zuni Pueblo on the Zuni Indian Reservation in New Mexico was undertaken in conjunction with a proposed project by the U.S. Bureau of Reclamation to eliminate flood dangers and the failure of an existing dam. In addition to a mailed survey (which yielded only a two percent response rate) and a door-to-door survey, key informant interviews were relied on heavily to provide information for the social assessment. "Key informant analysis is a social assessment procedure whereby a researcher consults with knowledgeable community leaders regarding the social impacts and effects of a proposed project. In this context, impacts refer to changes while effects refer to the meaning or values attached to those changes" (p. 245). Key informants were given a descriptive brochure and reviewed a handout that explained the purpose and goals of the social assessment. After a brief discussion, second interviews were scheduled to obtain and discuss key informant responses to each of the three alternatives. Key informant interviews proved to be an effective tool for gathering data.

Detomasi, Don D., and John W. **Gartrell** (Eds.) . Resource Communities: A Decade of Disruption. London: Westview Press. 1984.

This book is a compilation of papers about energy development and its related impact on surrounding communities. One paper, written by Charges Hobart, discusses the impact of resource development on indigenous people. Hobart's paper is concerned only with northern Canadian examples. He discusses three alternative resource development scenarios and their consequences for native communities as well as for native peoples. The paper focuses on the effects related to the employment of these people by the companies involved in the resource development.

Generally it must be said that the attitude of Canadian **industry** toward employing native people has not been enthusiastic. These people have typically been seen as disinterested in the kind of work available, undependable and given to high absenteeism and high turnover rates. At northern work sites, where the active work season is often quite limited and deadline pressures are heavy, such workers have been seen as an added source of uncertainty in a work environment where there are far too many such sources already. (p. 112)

While the Inuit became very effective workers underground as well as in the mill, the shop and on maintenance crew, this adaptation was not accomplished without difficulty. Some workers found it almost impossible to obtain adequate rest in their tiny, noisy houses during the periods of 24-hour daylight. During the season, Inuit were accustomed to visiting and other activity around the clock, stopping to sleep when the need overcame them. Workers suffered and many dragged themselves to work in very run-down condition. (p. 113)

The author concludes, however, that ". . . while it must be said that many **Inuit** experienced considerable initial difficulty in making the transition from their semi-traditional inland or coastal living patterns to those appropriate to an industrial community, they did adapt successfully and within a surprisingly brief **period**" (p. 113).

Devine, Michael D., et al. **Energy From the West: A Technology Assessment of Western Energy Resource Development.** Norman: University of Oklahoma Press. 1981.

This book is about the development of energy resources and the effects of that development on the environment and those within the environments. The focus is on an eight-state study area: Montana, North Dakota, South Dakota, Wyoming, Utah, Colorado, Arizona, and New Mexico. The authors point out that energy development will provide substantial benefits to local areas, to the western states, and to the nation. Yet they recognize that it will create many problems as well as worsen some existing ones. They feel that many of these problems are manageable with the right mix of technical, legal, and institutional responses. The specific concerns in each of these areas are covered extensively throughout the text.

Several specific Indian concerns are also discussed:

Perhaps the most significant effect of energy development for Indians is that traditional federal-Indian relationships are becoming obsolete. In addition, Indians will need to improve their management capabilities in order to deal with the impacts of energy development on the reservation and

must forge new relationships with various levels of government and energy industries. (p. 343)

. . . Indians can significantly affect the development of non-Indian resources, primarily because of the water rights they own. . . . (p. 343)

Energy development will create many of the same problems for Indians as it does for state and local governments. Growth management is likely to be the most serious of these. . . . (p. 343)

Issues of culture and lifestyle are among the most critical for Indians in regard to energy development. In fact, some tribes, such as the North Cheyenne, have decided not to develop their resources rather than to accept what they consider to be likely negative consequences for their culture and lifestyle (p. 343)

Indian tribes generally do not have the taxing powers necessary to respond adequately to growth management problems. Thus, although tribes may receive substantial economic benefits from development, they usually require support from the BIA, state governments, or developers unless impact assistance has been made part of the lease arrangement. (p. 345)

Dickens, Roy S., Jr., and **Carole E. Hill**. Cultural Resources: Planning and Management. Boulder, Colorado: **Westview Press**, 1978.

This publication maintains that:

. . . families, operating as subsystems within complex societies, are structurally embedded in larger social systems. As such, families are significantly affected by the natural environment. It appears that families, like all social groups, are molded as well as constrained by ". . . basic ecological factors as natural resources, material, and social technology and the economic order which satisfies peoples' subsistence **needs**" (**Micklin** 1973). Family values and goals as well as family structure are influenced by differential access to key resources. (p. 167)

Obviously, because of the close ties between Indians and natural resources, this orientation may be useful to those studying Native American cultures. Although this volume does not contain any information about Washington **or** Oregon Indian tribes, two authors address specific Native American issues.

Harding discusses the appropriateness of expanding cultural resource management to include living cultures, like Native Americans, especially in light of the social impact assessment requirements contained in the National Environmental Policy Act

of 1969. He believes living cultures are resources and promotes "a more active stance toward realization of the value of these resources" (p. 31) but warns of the danger inherent in "managing" living cultures as if they were zoos.

Jacobs conducted a social impact assessment of the San Juan-Chama Project, El **Llano** unit, in New Mexico, for the Bureau of Reclamation in 1975. The project, an irrigation canal and dam, would affect communities primarily inhabited by Spanish-Americans and Pueblo Indians. The author was a member of the consulting group who developed a field manual for social impact assessment for the U.S. Army Corps of Engineers in 1975; those procedures were followed for this social impact assessment.

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For those doing Indian **SIA's** this publication makes a case for and reminds researchers that:

1. Most societies contain subcultures with unique characteristics that may or may not be shared by the dominant culture.
2. In addition to race (or ethnicity), the authors argue that occupation and gender are prime determinants of cultural diversity which, in turn, give identity to subcultures.
3. The distribution of development induced rewards and sacrifices, and resulting inequalities among subcultures, to a significant extent, are determined by the politically and economically dominant culture.
4. Strong governments (both democratic and totalitarian) often go beyond the interests, demands, and wishes of social groups within their jurisdictions.
5. Social scientists have incorrectly viewed "government" as simply the arena in which public policy decisions are made; government itself should be considered an independent actor. "The state not only has its own agenda, but it also sets the most important part of the agenda for society-centered change-promoting and change-resisting forces . . ." (p. 264) .

Of more **specific** relevance is a chapter titled "The **Yupik** Eskimos of St. Lawrence Island, Alaska: A Social Impact Assessment of Proposed Energy **Development**" by Little and Robbins. The energy development referred to in the title is off-shore oil development.

The authors begin their chapter by asserting that, "For the most part, unfortunately, the conjunction of energy resource development and native peoples has resulted in harm to their cultures or yielded the people only limited beneficial impacts" (p. 185). They go on to acknowledge that Eskimo cultures, even among Native American cultures, are particularly unique. And their description of the Yupik suggests that the Yupik are members of a unique subset of Eskimo communities. Among other things, they are islanders who live in two isolated villages 120 miles from the Alaskan mainland, and 80 percent of their diet comes from "naturally recurring **resources**." Nevertheless, the authors maintain that an analysis of potential impacts of

off-shore oil development must consider the differences as well as the similarities of the **Yupik** and other Native Americans. This sets the stage for their social impact assessment.

As a foundation for their analysis, Little and Robbins describe the **Yupik community**, including the **community's** social structure and use of marine resources. Then in a unique and imaginative appraisal, they use this information and knowledge of energy development impacts on Western American Indians to describe the potential impacts of off-shore oil development on the Yupik.

They end their chapter with an oil-spill related scenario that includes a description of what might happen, how harvest disruptions might affect **Yupik** culture, and a few comments on the **Yupik's** view of how oil and gas development might affect their way of life.

In general, Little and Robbins conclude,

Because sufficient information necessary for theoretical validation is not currently available, social forecasting and prediction must remain somewhat imprecise. Nevertheless, it is clear that reduction in the availability of naturally recurring marine species would have a negative social impact on the **Eskimos'** subsistence lifestyle. Any activity which limits the number of, or restricts the access to, the marine harvests on which they rely cannot possibly be viewed as beneficial to the islanders. (p. 212)

Gillard, Quentin. Environmental and Socioeconomic Constraints: The Case of Oil Shale Development in the Green River Formation. In Johansen, Harley E., Paul Olen Mathews, and **Gunars Rudzitis (Eds.).** Mineral Resource Development: Geopolitics, Economics, and Policy. London: Westview Press. 1987.

Although the text is generally geared toward mineral resources, this section is concerned with environmental and socioeconomic constraints concerning oil shale development in the western United States. The first two topics discussed are environmental concerns, specifically air and water quality. The third section is devoted to socioeconomic constraints.

The focus of the portion related to socioeconomic aspects seems to be exclusively about the problems which occur as a result of growth in the communities surrounding the development area.

Development related to synthetic fuels presents both benefits and problems for the communities nearby. While the benefits of new jobs, increased income, economic diversification, improved public facilities and services, expansion of the tax base, and cultural diversification are the by-products of successful adaptation to growth, rapid growth also presents problems. The public service demands

created by growth and the uncertainty of the timing and specific location of many of the impacts also present problems. When growth is not successfully accommodated, market failures, shortfalls in facilities and services and social disruption can occur. (p. 329)

Determination of acceptable growth rates is essentially a value judgement. There are no local, state, or national norms that provide an unambiguous or generally accepted benchmark for evaluating the acceptability of population increases and a community's capacity to absorb different rates and sizes of population change. The general view is that there is not a single maximum limit to population growth rate or size that applies to all communities. Any assessment must be conditional, being contingent on the actions taken by policy makers, the degree to which mitigation measures are actively sought and applied, and the resiliency or vulnerability of the communities in question. (p. 333)

Jorgensen, Joseph G. Energy Developments in the Arid West: Consequences for Native Americans. In Paradoxes of Western Energy Development. Edited by McKell, Cyrus, et al. Boulder, Colorado: Westview Press, 1984, pp. 297-322.

The primary contention of this paper is that, for Indians, the negative impacts of energy development outweigh the positive impacts. Jorgensen maintains that ". . . the contexts from which tribes operate--little capital and meager information--and the nature of corporate capitalism in energy extraction have yielded unpleasant consequences in virtually all cases that have been studied to date" (p. 299) . In developing his case, the author compares and contrasts the energy development experiences of Navajo and Northern Cheyennes. He chronicles the development induced conflicts within Indian tribes as well as those between Indians and non-Indians, and he maintains that these conflicts have intensified. Jorgensen implies that a major source of these conflicts is differences in attitudes toward "land."

He quotes Indians to show how their views of "land" and the environment differ from those of non-Indians. And concerning how Indians perceive geographic space he argues that:

. . . during the past century students of Indian societies in the west have learned that Indians do not define the places in which they reside nor the spaces they obtain their livelihoods solely by ownership rights to corporeal property. The evidence from many contemporary Indian societies suggests that reservation Indians continue to evaluate land as spaces where livelihoods are obtained, places where present and future generations will reside, and spaces that are part of nature, yet are endowed with spirits that are more than natural and that are of special

consequence and meaning to past, present, and future generations. (p. 300)

Although not the central theme of this paper, it reminds us of two critically important aspects of contemporary Indian cultures: (1) The ways that Indians make tribal decisions vary significantly from tribe to tribe; and (2) even within tribes, attitudes and beliefs about the role of energy developments are not homogeneous and they are likely to vary over time in response to changing political, legal, and social circumstances.

Jorgensen, Joseph. G., Richard O. **Clemmer**, Ronald L. Little, Nancy J. Owens, Lynn A. Robbins. Native Americans and Energy Development. Cambridge, Massachusetts: Anthropology Resource Center, 1978.

Most of the articles in this publication have been superseded by more recent works, particularly those by Jorgensen, **Clemmer**, and Robbins. Of the other two articles in this publication, one describes the impact of energy development on two small southern Utah communities, and the other addresses the question, "Can Tribes Control Energy Development?" Concerning the latter, the author, Owens, does not provide a definitive answer, but she lists reasons why tribes do not have the ability to undertake large-scale development on their own and discusses the dangers of large-scale developments to Indian cultures. She presents what she calls **"the latest thinking"** (p. 50) on tribal controls: jurisdictional controls, financial controls, managerial controls, and controls through the diversification of the tribal economy.

Kresge, David T., Daniel A. Seiver, Oliver S. Goldsmith, and Michael J. Scott. Regions and Resources: Strategies for Development. Cambridge: The MIT Press, 1984.

This is primarily a study of the affects of energy development on the distribution of employment and income among native and non-native Alaskans. The results of several projections are presented in tabular form.

In the **"Base case"** the authors attempt to project a conservative growth path for the state's economy to the year 2000. In doing so, several **"policy neutral"** assumptions are made.

1. State government expenditures grow at a rate of 8 percent (p. 110)
2. Little additional petroleum reserves are explored (p. 117)
3. Slow steady growth for the U.S. economy, ignoring the business cycle (p. 118)

Given these assumptions the authors use the "MAP" model to produce a projection of growth in the year 2000.

The findings of the study indicate that regardless of the extent of resource development, the native situation, in terms of employment and income, is little changed. This, authors point out, is attributed to the fact that the native population as a whole is generally geographically immobile and usually located away from the center of economic growth. They also argue that the natives are, for the most part, unskilled workers and are therefore difficult to employ in the capital intensive resource extractive industries.

The authors point out that **"the** analysis of income effects for the natives sheds light on the process by which the induced changes in economic conditions affect the incomes of the original residents of regions experiencing resource development" (p. 139) .

Even in periods of expansion and rapid growth there is little benefit to the native population. The findings indicate that the native population tends to be almost exclusively concentrated in the lowest paying jobs. During periods of rapid expansion, although the real wages of the natives are increasing, the disparity between the natives and non-natives wages also seems to increase. Again, this appears to be the result of a lack of training of natives, as well as their immobility. Some of the less technical jobs, which may be available to natives, are in the government or support services sectors. Jobs, however, are usually located in the urban areas and the natives are more concentrated in the rural regions.

In summarizing their findings the authors put it quite well:
"One of the arguments commonly advanced in **support of** policies to increase regional growth is that the gains from growth would trickle down to the resident natives. Unfortunately, it also appears that the flow would indeed be no more than a trickle" (p. 140).

The study goes on to analyze the effects of a worker-training program as well as an oil wealth distribution program. Although no specifics for implementation are given on the worker-training program, the oil wealth transfer program study draws much of its information from the "Alaska Dividend Program" which has since been declared unconstitutional. This program was passed into law in 1979 and referred to as "Alaska Inc." Both of these programs were found to have a positive impact on native Alaskan employment, as well as a positive effect on their incomes.

Leistritz, F. Larry, and Steven H. Murdock. The Socioeconomic Impact of Resource Development Methods for Assessment. Boulder, Colorado: Westview Press, 1981.

This book is a multidisciplinary "encyclopedia" of model specifications, estimation techniques, data **requirements**, and outputs available from different approaches to county and

subcounty impact assessments. It includes separate chapters on "Economic Impact Assessment," "Demographic Impact Assessment," "Public Service Impact Assessment," "Fiscal Impact Assessment," "Social Impact Assessment," "Interfacing Socioeconomic Dimensions," and "Computerized Impact Projection Models." The book concludes with a chapter on "Use of Assessments in the Policy Process." The summary chapter appraises the "State-of-the-Art in Socioeconomic Impact Assessment" and specifies "Needs for Further Refinement and Development." This book does not include anthropological/ethnographic approaches to impact assessment. Although it was published nearly a decade ago, it is still an excellent introduction to the multidisciplinary dimensions of impact assessments.

This book contains no specific information about Native Americans. It does, however, present a description of the NAVAHO mode 1, an economic-demographic model designed for use as an economic planning and policy making tool for the Navaho Nation (PP. 216-217). Because it is brief we include the books' entire summary description of the model:

The Navaho Economic-Demographic Model was developed through a cooperative effort between the Navaho Nation and the State of Utah, Office of State Planning Coordinator. The model was designed for use as a tool for economic planning and policy making for the Navaho Nation (Reeve et al., 1976). Its basic structure is quite similar to that of the Utah Process Economic Demographic Model (UPED) which had previously been developed by the State of Utah.

The Navaho Economic-Demographic Model has three major components: an economic module; a demographic module; and an economic-demographic interface module. The economic module uses the economic base employment multiplier technique to project future levels of secondary employment, given initial projections of basic employment. The demographic module utilizes the cohort-survival technique to develop estimates of future population and potential labor force. The interface module consists of a routine for matching jobs and workers by occupational group and equalizing the supply of and demand for labor through migration and commuting of Navaho workers and migration of non-Navaho workers. Model outputs are provided at five-year intervals and include Navaho and non-Navaho population by age and sex, population by broad occupation classes, number of households, school age population, Navaho labor force by age, sex, and broad occupational group, and basic and residentiary job opportunities by industry and occupation.

Millsap, William (Ed.). Applied Social Science for Environmental Planning. Boulder, Colorado: Westview Press, 1984.

The basic question addressed by this publication is: "How can applied social science contribute to the process of environmental

planning?" (p. 3). It describes a wide array of theoretical and methodological approaches. In fact, all of the chapters are applied and interdisciplinary in nature, and most include case study material.

Turner describes how **"ethnohistorical"** and "ethnographic"^s research was used to select an open planning system with a flexible membership planning advisory committee (as compared to a fixed-membership committee). It was used to facilitate the study and planning process for a **Kaibab** Paiute Indian community housing rehabilitation program. The author maintains that the **flexible-**membership approach was successful in allowing a broad spectrum of community members to take part in the planning process. For the decision-making and evaluation portion of the study, Turner adapted the U.S. Army Corps of Engineers' Resource Assessment Methodology by modifying specific cost/benefit accounts and variables to make them compatible with Indian community interests and priorities. Within this context, a cost/benefit "Project Evaluation **Format**" was utilized to evaluate and **select** a plan that was approved and authorized for implementation by the Tribal Council. The success of the described approach was then validated by the fact that HUD officials evaluated and funded the **Kaibab** Paiute approved plan.

Another Indian community study was used to demonstrate how an ethnographic approach can be used as part of a social impact assessment. **Schoepfle**, et al., list the characteristics and advantages as:

(A) a choice of small, bounded community as the unit of study; (B) the use of participant observation, a mixture of face-to-face interview and observation, as its primary method; and (C) the presentation of research results as a narrative description of intricate patterns of social interaction, custom, and knowledge. These features have allowed anthropologists considerable insight into aspects of community organization sometimes missed by others, and into the validity of assumptions used by other social scientists. (p. 159)

The weaknesses of the ethnographic approach are also acknowledged.

(A) **Ethnography** can take years to do. (B) Reliance on participant observation make it difficult to derive patterns of knowledge and social organization. (C) The narrative presentation of results makes difficult the rigorous applicability of the results from one discipline of study to another. (C) (sic) It is difficult to determine if variability of findings in knowledge and perception is due to differences among individuals or among subgroups and subcultures. (p. 160)

Furthermore, the authors maintain that, if the limitations of variability and time can be "mitigated," the linkage of

ethnographic methods to other approaches is desirable. To make their point they use a study of Navaho energy resource (coal) development.

In essence, the methodology employed was to use kin-based networks to identify individuals who were then consulted using open-ended interviews. In this way **"costs"** and concerns were elicited. Then taxonomic diagrams, historic accounts, and decision models were 'Presented **back**' to interviewees. These presentations back to interviewees were seen as both a method of validation and basis for further elicitation. In turn, validation and refinement are considered the "first act of planning" (p. 170).

In general, the authors conclude that the failure to ask the right questions coupled with the paternalistic mentality of developers and planners is responsible for much of the **Navaho's** dilemma. In summary, this chapter describes a methodology, a cognitive ethnographic approach, and shows how it can be used to redress these failures and improve the decision making process.

Finally, a chapter by Harding and Livesay deserves recognition because it discusses an often overlooked conceptual issue, one that should be addressed at the outset of any SIA dealing with indigenous people. The authors define and discuss two broad approaches to studying human groups: structural and perceptual. They maintain

. . . the structural approach assumes that there is a reality of structural dynamics underlying any social situation. Often, there is an implicit, and sometimes explicit belief that there is one structure which forms the basis of all social life. . . .

One result is that the social structure comes to be viewed analytically as generating the social reality. The **sociocultural** environment is seen as the result of the action of social forces on the group members. The natural goal of research informed by such a conceptual framework is to seek out the basic dynamic, i.e., the social forces, and to explain the group life with reference to the character of its underlying structure.

Predictions and projects within this orientation tend to be restricted to extrapolation from the core of basic data, that is, from the critical variables identified by the original mode. This project is often formal and quantitatively based **on the** logic of the model. Thus, the accuracy of the projection is seen to a great extent as dependent on the formal elegance of the model and the procedures of the methodology, since these procedures are deductively validated. (pp. 24, 25)

Harding and **Livesay** go on to say:

What we have indicated as the perceptual approach may best be seen in contrast to the structural perspective. The perceptual view might address the point of **"objective"** social life and general structural foundations by suggesting that it is possible for there to be models of social reality, but that these are to some extent held by the groups themselves and will vary between societies or from group to group. The models constitute the conceptual frameworks which people use to assign meaning and with which values and feelings are associated. The models are not seen, then as the **"logical empirical"** picture--the description of the actual reality in the sense of the abstracted, universalistic, logically grounded model of fundamental structure.

The starting point for the analysis of social reality in this approach is thus reality as perceived by the actors, focusing from benefits and costs, and salient concerns of the group members. . . .

For social impact assessment, the implication of this approach is that impacts are those which are taken as such by the group. . . .

The perceptual approach therefore, must use qualitative as well as quantitative material and analyses in order to encompass the scope of a group's orientation and structures of meaning. (pp. 26, 27)

The authors maintain that SIAs have tended to emphasize the structural features of a situation because these are the features that have been most amenable to "start forward **treatment.**" Conversely, the perceptual approach has been neglected **"due** to the ambiguity of its foundation and **results"** (p. 27). And they conclude that, **"For** both theoretical and instrumental reasons we suggest that analysis should begin at the perceptual and proceed to the structural **level"** (p. 28).

From different perspectives, each of the chapters just reviewed support the contention that, to successfully work with Native Americans, it is imperative to recognize and accommodate the fact that Indian and non-Indian perspectives are often radically different. When non-Indian researchers work with Indians, it may be well to follow Harding and **Livesay's** recommendation and start with a perceptual approach and then proceed to structural models of what is often referred to as technical analysis. At a minimum, the two approaches should be used simultaneously. Furthermore, the two approaches can be melded into mutually reinforcing analyses by carefully "playing back" to Indians, for validation, all important non-Indian perceptions, procedures, and findings.

In a more general **sense** (and to **some** extent implicitly) , this publication makes a strong case for the contention that no single discipline or approach is sufficient for successfully working with Indians. That is, at a minimum, a multi-discipline/multi-paradigm approach is required for successfully working with Native Americans to improve the research and decision making processes that affect them.

Murdock, Steve H., and Larry F. Leistritz. Energy Development and the United States: Impact on Rural Areas. New York: Praeger Publishers, 1979.

Information relating to Native Americans is extremely brief. The authors confine their discussion of Native Americans to an acknowledgment that there is a lack of information on energy impacts and their effects on Native Americans.

Palinkas, Lawrence A., Bruce Murray Harris, and John S. Petterson. A Systems Approach to Social Impact Assessment: Two Alaskan Case Studies. Boulder, CO: Westview Press, 1985.

Using a broad systems framework and systems analysis, the authors develop a model and use it to conduct SIAs for two Alaskan communities. Systems theory is defined as "**an intellectual tool for studying the relation between the structures of a system and its functioning**" (pp. 8-9) .

In broad terms, this book is particularly useful because it not only presents an intellectually rigorous systems analysis model, but it shows how it was applied in two different cases. Thus , the advantages and disadvantages of their approach and opportunities for improving it can be more readily discerned.

The research and findings presented in this book are, for the **most** part, the result of work done for the Social and Economic Studies Program of the Mineral Management Service, Alaska OCS Region. The communities studied, **Unalaska** and Cold Bay, have racially mixed populations with approximately 14 and 10 percent, respectively, being Native Alaskans. (In the case of **Unalaska**, the Native Americans are primarily **Aleutes**, most of whom inhabit that portion of **Unalaska** called **Unalaska Village**.) The "Physical Environment" section of each case study includes a brief and very general description of the availability and use of plant and animal resources. Neither of the case studies were intended to be SIAs of Native American communities as separate entities; they are studies of mixed race small communities. As such they provide no specific information pertaining to Pacific Northwest Indian cultures, but the conceptual framework and analytical procedures provide valuable insights for researchers doing SIAs.

Schaller, D. A. An Energy Policy for Indian Lands: Problems of Issues and Perceptions. In New Dimensions to Energy Policy, R. Lawrence. Lexington, MA: Lexington Books. 1979.

Schaller states that, "five major issues must be considered in planning energy policy for tribal lands:

- 1) the availability and cost of development of Indian energy resources,
- 2) tribal jurisdiction and sovereignty,
- 3) economic development of the reservations,
- 4) Indian culture and tradition, and
- 5) the role of Indian tribes in intergovernmental relations within the federal system. (p. 57)

In discussing sovereignty, **Schaller** notes that "**despite** surrendering their status as sovereign nations, Indian tribes generally retain authority over their local government affairs. This includes the right to use and manage their trust lands and **resources**," and "**state** control over Indian lands is permitted only if expressly granted by **Congress**" (p. 58) .

Concerns about Indian culture are said to be

One of the most powerful issues influencing energy policy decisions on Indian lands . . . has its roots in the clash between centuries-old tribal cultures and the promises of a modern, technological society. The origins of much tribal uncertainty over energy development relate to differing tribal preferences over the level of accommodation to an encroaching non-Indian culture. The elders view with alarm . . . change which generally accompanies energy development. **At** the same time, younger and more educated Indians are gaining control of tribal governments, and recognize the short-term economic benefits to be gained from resource development. (p. 59)

The discussion of Indian tribes and intergovernmental relations within the federal system brings up several points:

- 1) "**The** Supreme Court has ruled that reservation tribes have reserved rights to water resources sufficient to meet present and future needs. In many instances, reserved Indian water is now committed and occasionally overcommitted to non-Indian **uses**, including energy development" (p. 61).
- 2) "**Federal** environmental laws are statutes of general applicability and apply to persons and activities, Indian and non-Indian, without distinction" (p. 61) .
- 3) An ". . . issue which complicates the energy policy picture is the administration of federal environmental programs over non-Indian activities on Indian land. Energy development companies need to know the locus of

authority for environmental regulation so facilities may operate within applicable environmental restraints" (p. 61).

- 4) Finally, "the Supreme Court has ruled that Indian tribes have no authority to enforce tribal law on non-Indian people on the reservation without specific congressional authority. However, such authority is not generally spelled out in existing environmental **statutes**" (p. 61) .

The author identifies four major decision-making groups which should be involved in the resolution of tribal energy development questions:

Indian tribes-- "Their concerns will be centered on the cultural, economic, and intergovernmental issues related to energy development from the clear perspective of **self-determination**. The tribes will be weighing energy development proposals against the long-term effect of these proposals (and policies) on the future sovereign power of **tribes**" (p. 62).

Energy producers and consumers-- ". . . interested in obtaining access to the Indian energy resource. The key values which this group brings to the policy process revolve around a faith in the basic market approach to energy development, regardless of resource **ownership**" (p. 62) .

Non-Indian interests-- ". . . which compete with tribes and with one another over issues such as water rights, irrigation, grazing, taxation, and general land development practices. Each enters the energy policy process when its own particular self-interests are threatened by energy development **options**" (p. 62).

Federal bureaucracy-- "At stake for federal agencies, particularly the Bureau of Indian Affairs, is survival as an institutional and political force in tribal decision making" (p. 63).

Schaller has identified yet another area of concern:

Each group involved in the policy process perceives the energy questions in a way which suggests the political arenas preferred for issue debate. Indian court victories on non-energy issues have encouraged tribes to use the judiciary as an arbiter of many energy-related jurisdiction and development questions. The reluctance of the executive and legislative branches to advance Indian treaty claims further explains the tribal preference for a court interpretation of Indian rights issues. Tribes have also intensified activity in the public opinion sector in an attempt to build wider support for the trend of legal successes they have experienced. (p. 63)

Stea, **David**, and C. **Buge**. Cultural Impact Assessment: Two Cases in Native American Communities. EIA Review, 1, (1980), 397-412.

This is an article that includes the essences of two "Cultural Impact Assessment" case studies: one considers the impacts of installing **photovoltaic** technology to produce solar energy on the Papago village of **Schunchuli** (Arizona) ; the other describes the development of a "Cultural Impact **Form**" for use in assessing the "impact" of development alternatives for allotted land of the **Pima-Maricopa** Salt River Indian Community. Except for the fact that they are both considered "cultural impact assessment" studies of Indian situations, the relationship between the two is not **clear**.

The orientation of the latter study is interesting and perhaps useful. It views Indian reservations as "nexus to rural satellites that are, in turn, subsidiary to the influence of one or several metropolises" (p. 404) and asserts that one of **Steward's** most useful concepts is the notion of a "**cultural** core. " They quote **Clemmer**:

Steward's attention to the community as a locus for identifying the principal factors causing change at the local level and his conception of the community as a system of sets of adaptive behavior patterns and institutions developing in response to environmental factors are extremely valuable in the study of American Indian communities. (**Clemmer**, 1978, p. 20)

An even more interesting aspect of the latter is an example of how Indian and non-Indian perceptions differ. The Urban Innovations Group of the University of California, Los Angeles, devised "General Guidelines for Cultural Impact Assessment."! Then the Salt River Pima-Maricopa Indian Community developed its own list of cultural impact questions. The differences between these two "**checklists**" are striking and are a poignant example of how Indian and non-Indian perspectives differ. Even though they do not analyze these differences in depth, Stea and Buge do note that "Angles" emphasized the more measurable and more "**thing-like**" aspects of cultural norms. Furthermore, they conclude that perhaps the thing that most distinguishes Indian cultural orientations from that of Angles is their strong concern for future generations.

Tester, Frank J., and William **Mykes**, Eds. Social Impact Assessment: Theory, Method and Practice. Calgary, Alberta: **Detselig** Enterprises Ltd., 1978.

As the title implies, this book contains separate sections on SIA theory, method, and practice. It is a collection of papers that were presented at the First Canadian Symposium on Social Impact Assessment. Included are case studies which are drawn from Canadian experiences. Most of the salient ideas expressed in

this book have been repeated elsewhere, updated, or superseded by more recent works. There are, however, at least two chapters that deserve to be mentioned here.

A chapter titled "**SIA: Approaching the Fourth World**" (Frank J. Tester) provides perspective and practical advice for researchers studying Indian communities. More specifically, Tester argues that, "**There** are practical and logical reasons why the 'detached observer' approach to assessing social impacts is inappropriate to fourth world **situations**" (p. 99). Related to this point he concludes, "Survey data and questionnaire research can only be justified when it can be established that those responding understand the context within which questions are asked and within which responses will be interpreted" (p. 101). In general, Tester believes that Indian SIAs should recognize contextually relevant traditions as well as the goals and aspirations of indigenous peoples.

The second chapter of interest here is titled "**Social** Impacts and Economic Efficiency in Resource Development Planning: The Case of Salmon Enhancement in British Columbia" (Michael Friedlaender and Alex Fraser). It explicitly recognizes the tradeoffs between economic efficiency (as defined by economists within the context of benefit-cost analysis) and the benefits of improved wealth distribution and quality of life. Then the authors develop and utilize a "**multiple** objective planning framework" for analyzing a **salmonid** enhancement program. The authors assert that they have successfully put into operation a multiple object planning framework and note they are building on this approach by attempting to incorporate additional unquantified aspects of project impacts on indigenous people into their model. This chapter provides a useful reference point for researchers attempting to deal with the perennial problem of how to aggregate quantifiable and non-quantifiable impacts into an overall decision making framework. And for scoping studies, it contains explicit reminders that both economic efficiency tradeoffs and impacts that cannot be quantified are particularly important elements of Indian natural resource management decisions.

United States Department of the Interior, Bureau of Land Management. Lewiston District. Oil & Gas: Environmental Assessment of BLM Leasing Program. 1981.

Although there is no specific mention of Indian concerns, several ideas are presented with regard to local communities which may be applied in circumstances involving Indian communities. In addressing economic and social impacts, the authors provide several measures which may help alleviate these impacts:

The primary impacts would be on communities called upon to provide services and housing to incoming oil and gas workers. Consequently, these impacts could be mitigated by hiring local labor whenever possible to reduce the

population influx and by having oil and gas companies provide some services when practicable. (p. 63)

Three specific measures suggested are:

- (1) The training of local labor by the oil and gas companies to reduce the influx of people.
- (2) Providing temporary housing by the oil and gas companies in the form of trailer pads/hookups.
- (3) Company-sponsored medical care for workers (p. 63).

The authors do note, however, that "**it** is highly unlikely that a population influx from major oil and gas field development could be totally avoided. For this reason a community close to a major field would almost certainly experience some strain on public services as a result of **immigration**" (p. 66) .

United States Department of the Interior, Office of Biological Services, Fish and Wildlife Service. Natural Resource Protection and Petroleum Development in Alaska. 1981.

Although concerns of Native Americans are not specifically addressed, Chapter 4 evaluates two case studies of petroleum development with regard to environmental protection in Alaska. The underlying concern is that baseline information is not available.

The main purpose of the two case studies is to show how fish and wildlife values and interests have actually fared in the context of two impact mitigation programs--one where the FWS (Fish and Wildlife Service) had primary authority for surface protection and the other where it was a secondary player. Both the KNMR (**Kenai** National Moose Range) and the NPRA (National Petroleum Reserve in Alaska) cases assess:
(1) administration authorities, roles, and decisionmaking,
(2) environmental protection requirements and enforcement procedures, and (3) environmental impacts and mitigation to the extent that limited information allows. (p. 163)

The authors assert that there are some problems in assessing actual impacts in that "scientific studies designed to assess the overall effects of oil development on fish and wildlife populations on the KNMR would be difficult and inconclusive because there is no description of baseline biological conditions before the intrusion of the oil **industry**" (p. 188).

Social Impact Assessments and Environmental Impact Statements
Related to Washington and Oregon Indians Tribes

Federal Energy Regulatory Commission. Final Environmental Impact Statement: Sultan River Project, FERC No. 2157--Washington. 1981.

Although the Skykomish occupied the area in "relatively recent time," specific impacts are not mentioned in the main body of the document in connection with Native American interests beyond noting that "**Indian** land use patterns, however, suggest that the area probably contains hunting, fishing, and gathering sites" (PP. 2-57, 2-58). The FEIS does acknowledge the possibility of adverse impacts on historical or archeological resources. "Although no known archeological sites would be affected, the possibility that Indian hunting camp sites are located on benches and terraces along the river, does exist. . . . The Applicant indicates that a survey would be taken along the power pipeline route to determine whether the pipeline would traverse an area where an isolated prehistoric artifact was found, and to test for other possible sites along the route. If land clearing or other construction activities disclose any undiscovered sites, Applicant has indicated that it would immediately notify the **SHPO**" (p. 3-54).

The **Tullalip** Tribes express concerns about the proposed minimum flows and **anadromous** fish protection and enhancement measures, especially as it relates to restoring **steelhead** populations in the affected area. These concerns, shared by the Washington State Department of Game, are outlined in a letter from the Department, as well as a joint letter from the Department of Game and the **Tullalip** Tribes, both of which are contained in Appendix C (p. C-21).

Specific **Tullalip** Tribe concerns are listed in a separate letter from the tribe which is reprinted in Appendix E. These concerns are primarily about possible project impacts on **anadromous** fish species. "**The** Tribes feel strongly that the fish and wildlife values of the Sultan system must be maintained at present levels and remain available for restoration to historic levels. They also feel strongly that the taking of a portion of a river and its fisheries resources is a violation of their treaty rights and places an undue hardship on tribal members who depend on this **resource**" (p. E-5) .

Geisler, Charles, C. Rayna Green, Daniel Usner, and patrick West. Indian SIA: The Social Impact Assessment of Rapid Resource Development on Native Peoples. Ann Arbor, MI: University of Michigan. 1982.

This book is divided into four segments: Section I explores ways in which SIA can be adapted to unique Indian circumstances; Section II presents Indian SIA studies done in the United

States; Section III presents Canadian Indian SIA studies; and Section IV is composed of Latin American indigenous peoples SIA case studies.

The first two chapters of Section I contain useful suggestions about how to structure Indian SIA studies. Craig and Testeris discussion of the role of **"institutional analysis"** and explanation of why institutional analysis is particularly relevant when doing Indian SIA provides useful perspective for any study of contemporary Indian societies. Chandler C. Smith's approach to evaluating natural resource development projects includes check lists and matrices that can be used to identify projects that are not feasible and projects that embody unacceptable impacts. He uses the Idaho Nez Perce Tribes' approach to integrated projects as one of three examples, but his **"brief overview"** provides no data or specific information for use in evaluating OCS resource development projects.

Two case studies described in this book deal with Washington State Indians. One uses the Upper Skagit **Tribe's** experiences with **Puget** Sound Power and Light's plans to build twin nuclear power generators on the Skagit River as a case study reference point for discussing the role of Indian SIAs. The author, Fernando, describes the circumstances and processes that lead to an Indian SIA study being conducted. In the process he evaluates the relevant Environmental Report and Environmental Statements and effectively argues that they did not adequately consider Indian salmon fishing rights or the potential impact of the proposed nuclear plants on Indian communities and their "societal structures ." Although dated, this case study documents errors that can be made in the doing of Environmental Impact Assessments when Indian interests are ignored or de-emphasized.

The other reference to Washington State Indians is in Willard, et al., "Seminar in Native American Community Development: A University-Based Training **Model.**" Development of an open pit molybdenum--copper mine on the **Colville** Indian Reservation in eastern Washington was chosen as the study area by seminar participants. The purpose of the seminar was to train students from a variety of disciplines to apply academic training to practical situations. A summary of eastern Washington history as it relates to the **Colville** Indian Reservation and a discussion of mine-related social impacts is included. Classroom training included cross-disciplinary research techniques, social change theory, literature searches, holistic approaches to data gathering, data analyses, and report writing.

Jorgensen, Joseph G. (Ed) . 1984. Native Americans and Energy Development II. Cambridge, Massachusetts: Anthropology Resource Center.

This book focuses mainly on coal and uranium developments in the southwestern United States with emphasis on the Pueblo, Hopi, Navajo, and Northern Cheyenne. The theme of several chapters is

that corporations have "exploited" energy development opportunities on Indian lands.

Jorgensen, Robbins, Ambler, and LaDuke discuss the origins, activities, and political affects of the Council of Energy Resource Tribes (**CERT**). Jorgensen concludes that, "The emergence of CERT has not changed the relations between industries and tribes, and it certainly has not turned the flow of energy-related dollars from corporations to the tribes" (p. 45). (Note that, according to LaDuke (p. 58), CERT was formed in 1972 and all the chapters in this book were written before 1984.)

Exceptions to the preceding generalizations include a chapter on Lake Superior region Indian lands, primarily **Chippewa**, energy and mineral developments, and a chapter on the **Colville** Confederated Tribes' eastern Washington molybdenum mining. The latter uses **socio-economic** data as a basis for discussing conflicts between **pro-** and anti-development factions and between on- and off-reservation tribe members. The author, Maxwell, also describes decision making within the **Colville** tribal government and maintains that key non-Indian technical advisors, tribal attorneys, and off-reservation tribal members perpetuate pro-development stances that do not fully recognize negative environmental, social, and cultural consequences.

Oceanic Institute of Washington. Oceanographic Commission of Washington. Offshore Petroleum Transfer Systems for Washington State: A Feasibility Study. 1975.

A portion of this report relates to different zones throughout Washington state and the possible impacts within these zones.

In discussing the Strait of Juan de Fuca zone, two Indian reservations, and related impacts on them, are mentioned. "Unless petroleum transfer facilities were located west of **Clallam** Bay . . ." the Makah Reservation, located in **Clallam** County, ". . ." would probably receive little direct benefit" (p. IV-92).

The second tribe mentioned, the **Elwah**, have "**limited** land resources (limiting) 'on-reservation' economic activity. Therefore, the **Elwah's** are dependent upon the employment opportunities provided by the larger community, and many of them live in Port Angeles" (p. IV-92). "Exploitation of fisheries resources now appears to offer the best long-term economic opportunity to the **Elwah's** as a **group**" (p. IV-92) .

"The major Indian tribes of the north Puget Sound zone are the Lummi and **Swinomish**." Referring to the Lummi, the authors mention an aquiculture project which "has created a number of new jobs and appears promising for the future" (p. IV-124).

The final tribe mentioned is the **Swinomish**, however, only statistics relating to population, land ownership, and unemployment are presented.

State of Washington, Department of Natural Resources. Draft Environmental Impact Statement: Proposed Oil and Gas Leasing Program. 1984.

Three tribes identified their concerns in response to the DNR's scoping letters. The three tribes are Squaxin Island, Muckleshoot, and the **Stillaguamish**. The tribe's concerns over elements of the environment overlap:

- 1) Soils
- 2) Erosion/accretion
- 3) Ground water movement/quantity/quality
- 4) Habitat, numbers, diversity of plants, fish or wildlife
- 5) Fish/wildlife migration routes
- 6) Release of toxic or hazardous materials
- 7) Sewer/solid waste. (p. iv)

The Northwest Indian Fisheries Commission also identified its concerns:

- 1) Habitat, numbers, diversity of plants, fish or wildlife
- 2) Fish/wildlife migration routes. (p. iv).

United States Department of Agriculture, Forest Service. Appendix L: Response to Public Comments, Final Environmental Impact Statement, Land and Resource Management Plan, Colville National Forest. 1988.

Contained in subject area # 1275, "**Indian Rights**," are socio-economic concerns of affected Native Americans. Issues addressed include perceived inattention by the USDA-Forest Service to impacts on spiritual grounds, berry fields, and other traditional sites; and a complaint that the Upper Columbia United Tribes Fisheries Center was not consulted during the preparation of the DEIS .

United States Department of Agriculture, Forest Service. Draft Environmental Impact Statement For The Land And Resource Management Plan, Olympic National Forest. 1986.

The DEIS states that "**every** alternative will involve continuing coordination with the Native American community, ensuring that concerns regarding protection of ancestral sites and freedom to continue traditional religious uses of the Forest lands and resources are considered. However, until such time as specific localities can be identified, the consequences of the alternatives can only be identified in broad terms (i.e. , the more intensive the land modification, the more likely the

alternative is to adversely affect areas of significance to Native Americans)" (p. IV-48).

In a section titled "Native American Community Group," the DEIS acknowledges that "many members of this community group rely on timber harvest for employment and income. On the other hand, the traditional values and religious beliefs of this community group result in strong concern for environmental **quality**" (p. IV-87) . Two of the alternatives which emphasize increased employment opportunity are expected to decrease opportunities for leisure/subsistence activities and traditional religious and cultural practices. Four alternatives are expected to increase opportunity for traditional subsistence, cultural, and religious activities. Two of the alternatives involve changes in management emphases and are expected to threaten community stability and increase tension within the group (p. IV-88) .

Appendix H, "Position Statement on the Olympic Forest Plan by Olympic Peninsula Indian Tribes," reflects the concerns of area Native Americans, including a citing of western red cedar and salmon as necessary religious resources, and that Constitutional rights of access to these resources is being hampered by development. A list of references is included.

United States Department of Agriculture, Forest Service. Draft Environmental Impact Statement For The Land And Resource Management Plan, Wenatchee National Forest. 1986.

The DEIS states that the Northwest Power Planning Council's Fish and Wildlife Program has identified Columbia River hydroelectric dams as "a major factor limiting anadromous fish **production**" (p. 111-47). The DEIS also states that

A primary management consideration of the Forest are [sic] the fisheries rights reserved to the Indians by the **Yakima** Treaty of 1855. The Yakima Indian Nation is concerned for the development of environmental standards which ensure the protection and/or enhancement of the fisheries resource. Recent litigation concerning the protection of water quality and fish spawning habitat has emphasized the responsibility of the Forest Service with respect to those treaty resources reserved by the Indian Tribes of the Pacific Northwest. (p. III-45)

A discussion of the environmental consequences of the proposed alternatives on American Indians includes: the enhancement of resident and anadromous fish habitat under every alternative; an overall drop in big-game populations under two alternatives due to loss of cover and forage availability; an increase in huckleberry production under the same two alternatives because of the increased timber harvest level; no overall change in the availability of edible root plants; under four alternatives, there would be an increase in big-game cover and forage. Two of the alternatives call for "**substantial** modification of the

landscape'! (p. IV-137) . This would impact scenic quality and culturally sensitive sites. Four alternatives specify intensive vegetative management, which would impact known sites. "In these situations, all information of scientific value would be retrieved. However, some of these sites might represent a physical link between the American Indians and their ancestors. The loss of this attachment could not be adequately **mitigated**" (p. IV-137). Two alternatives involve modifying several viewsheds and are of concern to the Indians. However, two of the alternatives protect or enhance viewsheds. "This would directly benefit ongoing traditional and religious uses of the Forest by the American **Indians**" (p. IV-137).

United States Department of Agriculture, Forest Service. Draft Environmental Impact Statement For The Proposed Expansion of White Pass Ski Area, Wenatchee National Forest and Gifford Pinchot National Forest. 1989.

One of the seventeen issues identified in the EIS is "What will be the cultural and/or spiritual impacts on the Indian Nations, including the Yakima Indian Nation, by expansion in **Hogback Basin?**" (p. I-24). This issue was not included as one of the five areas considered most important for comparing alternatives.

The Yakima Indian Nation has expressed objections to the expansion of White Pass Ski Area for two major reasons: (1) possible negative impacts on big game animal populations, specifically deer and elk; and (2) that "within a 10-mile radius of the project there are numerous areas of cultural and or spiritual importance to the Yakima **people**" (p. 111-41) . Specific concerns included possible cultural sites, spiritual sites, berry picking, root crops, cedar products, and hunting and fishing.

The following summary was given in response to the above concerns:

The environmental consequences of any of the alternatives on the cultural and spiritual aspects involved in the proposed development area, become a philosophical issue. The cultural surveys conducted by a professional archaeologist under contract to the White Pass Company failed to discover any site-specific evidence of Native American use of the area. These surveys and record searches were reviewed by professional Forest Service Archaeologists and were found to be accurate and thorough. Members of the Cultural Committee of the Yakima Indian Nation indicated that their main concern was that any development from Rimrock Reservoir to White pass (sic) would adversely effect the **area's** cultural and spiritual meaning and its naturalness, and would tend to bring more use to the area. This use will continue to grow with or without additional development and will tend to cause additional impact on the boundaries of the Yakima Indian Nation. (p. IV-28)

It was noted that cultural surveys would be done with all new ground-disturbing activities.

United States Department of Agriculture, Forest Service. Draft Environmental Impact Statement for the Proposed Gifford Pinchot National Forest Land and Resource Management Plan. 1987.

Major Native American groups most closely associated with the Forest . . . were the **Klickitat, Cowlitz, Yakima, Upper Nisqually or Mical, Upper Chehalis, Taidnapum, and Upper Chinook**, a collective name for the Columbia River groups" (p. III-64) . Members of the **Nez Perce, Blackfeet, Umatilla, Wasco, Warm Springs, and Klamath** groups also used the forest. Uses include berry picking, collecting roots and other foods, hunting, and religious ceremonies and feasts. Problems have arisen due to the sensitive nature of private religious ceremony site dedication: Native Americans are reticent about divulging locations for fear that their privacy will be invaded. Specific Indian concerns are listed:

1. There needs to be more involvement by Native Americans in Forest planning, particularly in fish and game habitat management.
2. The intention to observe treaty rights should be stated explicitly in plans.
3. Measures should be taken against encroaching vegetation which is threatening traditional activities and ceremonial observances in some portions of the Forest. Specifically cited were the Indian Race Track and other portions of the Indian Heaven area.
- 4* The policy of requiring permits for gathering cedar bark and roots should be reexamined, particularly when it occurs on ceded land. Some elders fear prosecution.
- 5* To recover an element of a greatly altered heritage, Indian place names should be retained and restored in the Forest.
6. Religious site protection should be continued and strengthened.
7. Mt. Adams is sacred; mass climbers upset Indians, and Indians want to discuss limiting or excluding climbers.
8. Further meetings with the Yakima would be beneficial.
9. Indians are concerned about the land exchange program which trades lands used by Indians.
10. Areas need to be managed to provide berries. Specifically discussed was the need for burning;

Indian elders have offered to provide information on how it used to be done. The Berryfield Agreement needs to be enforced, as conflicts have occurred between Indians and non-Indians. (p. III-66)

The courts have ruled that treaty Indians may hunt for subsistence purposes on open and unclaimed lands within their ceded areas. The State of Washington has defined 'open and unclaimed lands' as Federal public lands within the Tribets ceded area that have not been set aside for a purpose inconsistent with hunting. (p. III-66)

There has been some indication by the State that the fact that nontreaty Indians **didn't** relinquish any rights entitles them to greater rights than treaty tribes. Again, the extent of the rights is not clear. Litigation with respect to Indian rights is ongoing in many areas of the United States, and may result in future changes in management practices on the Forest. (p. III-66)

At the time the document was written, 3,386 American Indians inhabited the region (p. III-93) .

United States Department of Agriculture, Forest Service. Draft Environmental Impact Statement: Okanogan National Forest Land And Resource Management Plan. 1986.

Native Americans, mostly members of the **Colville** Confederated Tribes, make up about 11 percent of the total area population. They are recognized as a "distinct social group, attaching special values to their land, its natural resources, independence and extended kinship ties" (p. III-77) . Hunting rights reaffirmed by the 1975 Antoine decision are recognized as are the protection and preservation of traditional religious rights under the 1978 American Indian Religious Freedom Act. Tribal elders in cooperation with the Forest Service have evaluated portions of the National Forest for sites of religious significance.

Native Americans are concerned about deer population changes under the alternatives.

Deer populations would change by alternatives however, thus affecting the hunting opportunity of Native Americans. The hunting and taking of wild game is an important social and cultural part of Native American lifestyle, as well as providing a source of food. Lower deer populations could result in decreased cooperation and trust with the Federal Government. (p. IV-84)

The DEIS also addresses another area of concern:

Colville Confederated Tribal members sense conflicts with National Forest management because of the cultural differences. With a large Forest Service timber output,

federal government employment is apt to increase, causing stress for some CCT members. Therefore, some members of the **CCT** may feel adversely affected by alternatives with higher than current timber harvest output; and conversely, may feel relieved or positively affected by alternatives with lower than current timber harvest levels. (p. IV-84)

United States Department of Agriculture, Forest Service. Draft Environmental Impact Statement: Proposed Land and Resource Management Plan. Mt. Baker-Snoqualmie National Forest. 1987.

The DEIS recognizes the American Indian Religious Freedom Act of 1978 and lists tribal groups who currently use the Forest for traditional religious purposes: Lummi, Nooksak, **Swinomish**, Samish, Upper Skagit, Sauk-Suiattle, **Stillaguamish**, **Snoqualmie**, **Tullalip**, **Duwamish**, **Puyallup**, **Muckleshoot**, **Nisqually**, and **Cowlitz**. Forty-four percent of Washington State's Native Americans live in the five affected counties (III-85).

Specific concerns include the following:

For certain uses, the condition of the area and the integrity of the relationship of vegetation, water, wildlife, and fish is important. Any area of the forest containing old-growth cedar and/or clean streams and/or plants used for medicinal or ceremonial purposes is a potential religious use area. Areas where these resources co-occur are especially important. (p. III-92)

Anadromous fish have been a traditional and principal means of income for many Native Americans living in the planning area. Protection and enhancement of the habitat for anadromous fish is a major issue. (p. III-93)

United States Department of Agriculture, Forest Service. Draft Environmental Statement For The Proposed Land And Resource Management Plan, Umatilla National Forest. 1987.

Three Indian treaties affect the **Umatilla** National Forest:

(1) **Walla Walla**, Cayuse, and **Umatilla** Tribes, known today as the Confederated Tribes of the **Umatilla** Indian Reservation; (2) the tribes of Middle **Oregon--Tygh**, Tenino, **Wyam**, and John Day Indians and the Wasco Chenookans--known as the Confederated Tribes of the Warm Springs Indian Reservation; and (3) the Nez Perce. Each treaty ceded lands to the U.S. Government, portions of which lie inside the Forest. The treaties provide certain fishing and hunting rights, including erecting suitable buildings for curing fish.

"Anadromous fish are a treaty-protected resource which has subsistence, ceremonial, and commercial value to tribal members. In the past, activities such as gold dredging, grazing, and road

construction depleted some areas of **riparian** vegetation. Riparian habitat improvement projects result in fish habitat restoration" (p. IV-154). The alternatives are expected to increase wildlife habitat, improve fish habitat, and increase the amount of grazing available. Since traditional root gathering and berry picking sites are usually known only to Native American family members, impacts from the alternatives are variable.

Specific concerns are included in the following:

The local Indian **tribes'** desired lifestyles are reflected in their plans, including the Comprehensive Plan of the Confederated Tribes of the **Umatilla** Indian Reservation (**CTUIR**). The alternatives meet objectives and policies described in the comprehensive plan. The **CTUIR** also prepared and published comments entitled 'Recommendations for National Forest Plans.' Principal concerns are fisheries, wildlife, riparian protections, watershed management, livestock grazing, roots and berries; protection of historic and cultural sites, woods, timber management and harvest, and economics. (p. IV-165)

"Representatives of the Confederated Tribes of the **Umatilla** Indian Reservation have expressed a continuing concern for and interest in the Forest management of cultural **sites**" (p. IV-151) .

United States Department of Agriculture, Forest Service. Final Environmental Impact Statement: Appendices, Response To Public Comment, Ochoco National Forest And Crooked River National Grassland. 1989.

Two Native American concerns were addressed in the Response to Public Comment section of this **FEIS**:

1. "The U.S. Department of the Interior IAS noted that a statement in Appendix D-1 of the DEIS implied that the applicable Native American Group would be contacted in the event of a disturbed burial site only if reinternment in place was not possible. USDI stated that the Native Americans should be contacted in any case dealing with a prehistoric burial or cremation.

"Response: This statement has been corrected in the **FEIS**, and Standards and Guidelines in both Forest and Grassland Plans reiterate that consultation shall commence after the initial discovery of a prehistoric burial or cremation (p. 1-3-20).

2. "The Columbia River Inter-Tribal Fish Commission stated that the Monitoring Plan for Cultural Resources showed no plan for consultation of the **Umatilla** or Warm Springs Tribes. **CRITFC** noted that a point was made about consulting ranchers regarding forage utilization

standards and felt the same consideration should be given to the Native American Tribes.

"Response: Forest Management Goals and Standards and Guidelines have been rewritten to provide for consultation opportunities involving all interest publics, including the tribes" (p. 1-3-21).

United States Department of Agriculture, Forest Service. Final Environmental Impact Statement: Early Winters Alpine Winter Sports Study. 1982.

The FEIS estimates that "few ethnic minorities are present" in the Methow Valley (p. vii). The **Colville** Confederated Tribe reports no religious sites are present in the proposed area (p. 49). At that time, 45 Native Americans lived in the area.

United States Department of Agriculture, Forest Service. Final Environmental Impact Statement for the Colville National Forest Land and Resource Management Plan. 1988.

Seventeen percent of the area within the three counties included in the **Colville** National Forest is devoted to Indian Reservations, with a combined Native American population in 1984 of 2,777 (p. 111-139). Native Americans from the **area's** three reservations (**Colville** Confederated Tribes, which consists of 11 tribes, **Kalispel**, and Spokane) constitute a cohesive, distinct community. The FEIS addresses fishing rights on area reservations and use of the national forest for gathering native plants in traditional gathering areas by members of the **Colville** Confederated Tribes, as well as by members of the smaller **Kallispel** and Spokane Indian Tribes. Effects on Native American populations from various alternative proposals are discussed, with preferred proposal G-M resulting in increased deer populations beneficial to subsistence use.

United States Department of Agriculture, Forest Service. Final Environmental Impact Statement for the Land And Resource Management Plan: Fremont National Forest. 1989.

Klamath Tribe concerns regarding management of the Forest arise from two priorities: preservation of the culture and identity of native peoples, and commitment to continued use of established treaty rights. The FEIS identifies "**Klamath** Tribe **needs**" as one of the six major environmental impact issues to be addressed:

"The 1864 treaty between the **Klamath** Tribe and the United States Government guarantees tribal members hunting, fishing, trapping, gathering, and water rights on those lands formerly comprising the **Klamath** Reservation. . . .

"**Management of cultural resources** is **also** a concern. Some tribal members view all cultural resource sites and artifacts as sacred, and oppose any excavation or disturbance. Others distinguish among burial sites, habitation sites, specialized use sites, and isolated materials, in terms of their significance and the way they should be treated" (p. I-15).

Five areas of specific concern were noted:

- * Potential increases in disturbance of undiscovered archaeological sites;
- * Potential increases in disturbance of unknown religious use sites;
- * Potential decreases in the quality of hunting, fishing, and gathering acts for **Klamath** Tribe members;
- * Potential decreases in the number of animals available for harvest by **Klamath** Tribe members;
- * Effects of the proposed Forest Plan on species of special interest to the **Klamath** Tribe. (p. I-28)

Comments from **Klamath** Tribe members on the DEIS included the following:

. . . impacts of the alternatives (including the proposed Plan) on the Tribe and the treaty rights area were not adequately evaluated, and that the Forest Service has not met its obligation to the Tribe under the terms of the Consent Decree [April 29, 1981].

The respondents stated that numbers of mule deer and trout are not adequate indicators of responsiveness for evaluating how the proposed plan addresses tribal concerns. They asserted that other measures are needed to more specifically evaluate impacts on the treaty rights area, on cultural and religious sites important to the Tribe, and on the Tribe itself.

Other comments from the Tribe expressed the view that the draft EIS and proposed Plan are in violation of NEPA and NFMA because: uneven-aged management was not sufficiently considered in alternative design; budget constraints on alternatives were not adequately evaluated; the range of alternatives was not sufficient to address tribal needs; and the effects of the alternatives on environmental components were not fully disclosed.

In addition to requesting resolution of the concerns noted above, the letter from the Tribe recommended that the final Forest Plan improve standards and guidelines for protection of wildlife habitat, cultural resources, and the religious use sites. It also recommended that the final Forest Plan include provisions for restoring trout to Class III streams not currently producing trout; providing greater protection for riparian zones; increasing the use of uneven-aged

management; and more actively involving the Tribe in the land management planning process. (PP. I-15, 16)

Klamath Tribes needs were integrated into the discussion of each of the alternatives. In addition, quantitative indicators of responsiveness to the different alternatives on the **Klamath** Tribe's subsistence needs were developed and detailed:

- percent change from **ODF&W** management objective for mule deer and trout
- population levels of indicator species
- acres of uneven-aged management
- acres allocated to nondevelopment. (p. 11-122)

United States Department of Agriculture, Forest Service. Final Environmental Impact Statement: Land and Resource Management Plan, Wenatchee National Forest. 1990.

Rights and concerns of Native Americans are specifically addressed in this document. It is asserted that, "The forest is within the area ceded to the U.S. Government by the Yakima Indian Treaty, dated June 9, 1855 (Refer to the copy of the 1855 Treaty in Appendix G) ." However, ". . . certain rights and privileges to the ceded lands were retained." "Article 3 of the Yakima Indian Treaty states, '. . . has also the right of taking fish at all usual and accustomed places in common with the buildings for curing them; together with the privilege of hunting, gathering berries, and pasturing their horses and cattle upon open and unclaimed land" (p. III-28) .

This FEIS states that under the American Indian Religious Freedoms Act (**P.L.** 95-341), which states that it will be the policy of the United States to protect and preserve traditional religions for American Indians, This includes, but is not limited to, access to sites, use and possession of sacred objects, and the freedom to worship through ceremonial and traditional **rites**" (p. III-29).

Currently, information with respect to location of traditional American Indian sites on the Forest is unknown. Members of the Yakima Indian Nation are reluctant to share this information because of its private nature. What is known is that many ceremonies and religious activities are directly related to the importance of certain food resources. Roots , salmon, venison, and berries are still served and eaten as part of traditional religious ceremonies (**Galm, et al., 1981**). Within the mid-Columbia region, many of the traditional food gathering areas (especially root localities) are now in private ownership. Consequently, many of the Indians obtain their traditional resources from federal lands. (p. III-29)

With respect to Forest related activities, the following concerns are noted:

The relationship and interaction between American Indian rights and uses of the Forest and other Forest management activities is complex. Rights reserved to the Indians by the **Yakima** Treaty will affect Forest management activities, particularly those actions that could impact water quality and anadromous fish habitat. (p. III-29)

Other Indian-related issues that may influence Forest programs are protection of wildlife resource values and ancestral sites; recognition of social/cultural/religious values with respect to the landscape and resources of the Forest; and assurance of access to traditional resource collection areas. (p. III-29)

In discussing the various alternatives, "Alternatives **B,H,I, and J** with their emphasis on the production of commodities, would have community and social effects developing sooner than the other alternatives." Under these scenarios,

- . . . the American Indian communities will experience the economic benefits experienced by other communities. There would be adverse effects due to perceived risk to cultural sites, risks to anadromous fish, a changed environmental setting of identified cultural sites, and a change in setting of activities identified in treaties. (p. IV-129)

The study points out that under each alternative course of action there is a great deal of variance as to the degree the Indians will be affected. "No single alternative will directly benefit the American Indian community in all situations, nor will it resolve every concern" (p. IV-130) .

United States Department of Agriculture, Forest Service. Final Environmental Impact Statement: Land and Resource Management Plan, Wenatchee National Forest: Appendix K. 1990.

This volume deals specifically with public involvement, comments and Forest Service responses. Five responses from three Indian groups are included. These groups include the Confederated Tribes and Bands, Yakima Indian Nation; Columbia River Inter-Tribal Fish Commission; and the Yakima Indian Nation, Wildlife Resource Management Program.

Three letters are from the Confederated Tribes and Bands, **Yakima** Indian Nation. In the opening remarks of their letter dated September 23, 1986, pages K-354 through K-356, the group identifies its main concern:

We would like to state at the outset that although it is claimed repeatedly that increases in fish to the forest will largely be due to increased escapements, it is possible to sustain and increase escapement only if high quality fish habitat is provided. Therefore, it is of utmost concern to the Yakima Nation that the best possible habitat for salmon

and steelhead is provided on forest lands. We also feel that diminished numbers of fish within the forest is not only due to downstream effects, but also because of environmental perturbations [sic], use as grazing, road building, and timber harvests within the forest itself. (p. K-354)

Specific concerns identified by this group include:

Roads-- "Our concerns regarding roads center around increased sediment yield and fish **passage.**" With regard to culverts along the constructed roads, ". . . surveys should be completed and funds should be appropriated to correct passage problems, with highest priority given to streams with a potential for producing **anadromous fish.**"

Water-- "We are particularly concerned about the impacts of harvest activities on water yields." ". . . temporary water yield increase (**DEIS, p.III-76**) as a result of timber harvest can result in unacceptable [sic] long term habitat degradation [sic]."

Fisheries-- "**There** should be an immediate increase in resources committed to habitat inventories, studies of fish populations and distribution, etc. It is only in this fashion that sound management decisions can be made." The group further asserts their hopes that ". . . empirical data will be gathered, rather than through estimations based on theoretical models." (p. K-354)

In the Yakima Indian **Nation's** letter dated October 1, 1986, reference is made to their archeological and cultural review of the Wenatchee National Forest's Proposed Land and Resource Management Plan. The letter states, "As you will see, no alternative presented was chosen. The archaeologists retained by the Yakima Nation reviewed the proposed plan and have raised valid concerns which are supported by the Yakima Tribe" (p. K-385). (The archeological and cultural review referred to in the above letter was not presented in this environmental impact statement for review. Therefore, it is difficult to determine their exact concerns in regard to this review.)

United States Department of Agriculture, Forest Service. Final Environmental Impact Statement: Land And Resource Management Plans, Ochoco National Forest And Crooked River National Grassland. 1989.

Six 'lifestyle' categories are recognized in this **EIS**, one of which is Native Americans. The Native Americans in the area consist primarily of the Warm Springs Confederated Tribes and the Paiutes. They rely on the **Ochoco** National Forest and Crooked River National Grassland for jobs, wood, and forage (p. 3-55) .

"Under the Tribes of Middle Oregon Treaty of 1855, rights such as hunting, fishing, and root gathering are reserved to the Tribes in the area ceded by the Tribes" (p. 3-56). Both the Warm Springs Confederated Tribes and the Paiutes have traditional areas in the **Ochoco** National Forest for root gathering and berry picking.

The EIS acknowledges that direct effects on cultural resource sites are associated with "road building, timber harvesting, trail and campground construction, reservoir construction, livestock trampling and the development of springs for human or livestock" (p. 4-13). The authors note that recreation areas often coincide with cultural sites because of the characteristics of the area, such as meadows, springs, **terraces**, promontories, and ridgetops. Unauthorized collection of artifacts, looting, and vandalism are also more likely to occur if the number of visitors to the area increases. Timber sales activities are recognized as the most potentially damaging activity as it relates to cultural resources.

Activities which are not necessarily threats to Native American interests include prescribed fire, broadcast seeding, and chemical vegetation control of non-palatable species. Positive effects include the opportunity to inventory and enhance cultural sites and provide interpretations for public education and enjoyment.

Although Indian heritage/preservation plans may pose a potential conflict with forest management plans, "consultation between the Forest and the respective Tribal Councils or their representatives will minimize or eliminate such conflicts" (p. 4-16).

Anadromous fish are not one of the major issues addressed in the FEIs. However, "**anadromous** fish were identified as a concern by several individuals and groups, including a lengthy, technical response from the Columbia River Inter-Tribal Fish Commission (**CRITFC**). Primary concerns included protection and enhancement of spawning habitat, and the adequacy of the monitoring schedule. Native American groups noted that treaties guarantee protection for anadromous fish habitat" (p. 1-17). Anadromous fish habitat is present in approximately 42 miles of stream in the northern section of the Forest. "**Steelhead** are used by Indians for economic and ceremonial purposes" (p. 3-95). Concerns expressed by representatives of the Confederated Tribes of the Warm Springs Reservation include "being able to gather plant materials, support of prescribed burning, protection of archeological sites, and general availability of Forest and Grassland resources" (p. 4-107).

United States Department of Agriculture, Forest Service. Final Environmental Impact Statement: Tepee Butte Fire Recovery Project, Wallowa-Whitman National Forest. 1989.

Article 3 of the 1855 treaty with the Nez Perce includes the following:

The exclusive right of taking fish in all the streams where running through or bordering said reservation is further secured to said Indians; as also the right of taking fish at all the usual and accustomed places in common with the citizens of the territory; and of erecting temporary buildings for curing, together with the privilege of hunting, gathering roots and berries, and pasturing their horses and cattle upon open and unclaimed lands. (p. III-59)

Further,

In 1980, the Federal Court held that a treaty right to fish is meaningless if most of the fish are destroyed by a hostile environment and that others have the obligation to refrain from degrading habitat to the extent that tribes would be deprived of moderate living needs. The court further held that environmental conditions essential to anadromous fish runs include access and an adequate supply of good quality water (United States v. Washington, Phase II, 506 F Supp. 187, W.D. Wash 1980). (p. III-59)

Two meetings were held with Columbia River Inter-tribal Fish Commission representatives and the Forest Service to record concerns and answer questions about fisheries and water quality. Representatives from the Confederated Tribes of the **Umatilla** Reservation and the Nez Perce Tribe also attended the meetings.

A lengthy letter from the Columbia River Inter-tribal Fish Commission detailed the following concerns:

Lack of data regarding anadromous fish,
Inadequate modeled predictions,
No detail in the monitoring plan,
Lack of adequately assessed cumulative effects,
Model assumptions are inconsistent, and
A wider range of alternatives should have been assessed
(p. V.89).

United States Department of Agriculture, Forest Service. Final Environmental Statement: Burnt Powder Land Management Plan, Wallowa-Whitman National Forest. 1979.

The treaty between the United States and the **Walla Walla**, Cayuse, and **Umatilla** Indians, dated June 9, 1855 (12 Stat. 945), marked cession by the Indians to the United States of a large territory. It reserved to the Indians a smaller

body of land and provided 'that the exclusive right of taking fish in the streams running through and bordering said reservation is hereby secured to said Indians . . . ; the privilege of hunting, gathering roots and berries, and pasturing their stock on unclaimed lands. . . .' (p. 24)

A similar treaty was also signed in 1855 with the Nez Perce.

"Unclaimed Lands" are federally owned lands.

United States Department of Agriculture, Forest Service. Final Environmental Statement: Canal Front Land Management Plan, Olympic National Forest. 1979.

At the time of the FES, less than 4 percent of the population were Native Americans. Although no specific sites have been identified, it is felt that a "significant, unknown archeological resource exists within the Planning Unit," as the Big **Quilcene** and **Dosewallips** rivers had been used for "village sites, fishing, hunting, and for passage to the Pacific Coast and Grays Harbor areas" (p. 70). Significant historical or cultural sites will be protected as they are identified during development.

In a letter dated July 31, 1978, the Skokomish Indian Tribe expressed the following concerns about the Draft Environmental Impact Statement: (1) impacts upon fisheries, especially as it relates to water quality; (2) that the issue of treaty hunting and gathering rights on "open and unclaimed lands" (p. 261) was not addressed; and (3) concern was expressed that a member of the Skokomish Tribal Council was not included in the citizens committee.

United States Department of Agriculture, Forest Service. Final Environmental Statement for the Chelan Planning Unit in the State of Washington. 1976.

Although Indian tribes have not inhabited the area for approximately 100 years, the site of an Indian-Cavalry battle in the upper Raging Creek drainage will be preserved (p. 67). Also, the existence of a number of scattered public domain Indian trust allotments in the area are mentioned, although socio-economic impacts specific to Native Americans are not addressed.

United States Department of Agriculture, Forest Service. Final Environmental Statement: Kittitas Land Management Plan, Wenatchee National Forest. 1979.

The area in this planning unit was once occupied by bands of Yakima and Wenatchee Indians and is within the area ceded to the U.S. Government by the Yakima Indian Treaty dated June 9, 1855. Article 3 of the **Yakima** Indian Treaty is excerpted as follows:

' . . . as also the right of taking fish at all usual and accustomed places, in common with the citizens of the territory, and of erecting temporary buildings for curing them; together with the privilege of hunting, gathering roots and berries, and pasturing their cattle upon open and unclaimed land. . . . ' (p. 14)

The Wenatchee National Forest has met with the Yakima Indian National Tribal Council "in an attempt to identify any sacred sites, cemeteries or sites containing sacred objects on the unit" (p. 16).

United States Department of Agriculture, Forest Service. Final Environmental Statement, Malheur National Forest 10-year Timber Resource Plan. 1978.

A relatively small number of American Indians live in the affected area. Cultural and historical artifacts reflecting Native American activities exist, although impacts are not addressed. When identified, significant cultural resources will be cataloged and protected. It is noted that "Unknown cultural resources are vulnerable to ground disturbing activities such as timber harvest and road construction. The potential for inadvertent losses to cultural resource is high in areas where cultural resource inventories have not been made" (p. 97) .

United States Department of Agriculture, Forest Service. Final Environmental Statement: Quinault Planning Unit, Land Use Plan. 1976.

The **Quinault** Tribal Council was consulted, and it was noted that the **Quinault** Indian Nation was in the process of developing an economic development plan (Stevens, Thompson & **Runyan**, Inc. , June 1974, **Quinault** Comprehensive Plan, Existing Conditions, draft).

Four major watersheds are included in the Planning Unit: The **Queets, Quinault, Humptulips**, and Wishkah. Each is important to the Olympic Peninsulars anadromous fish, and provide both sport and commercial fishing. The **Quinault** Indians raise penned fish in Lake **Quinault**. These fish, approximately 150,000 **lbs.** annually, are sold to commercial retailers and restaurants (p. 7).

The FEIS states that "**Man's** activities, primarily logging and road construction, have impacted water quality and **fisheries**" (p. 7).

United States Department of Agriculture, Forest Service. Final Environmental Statement: Tonasket Planning Unit Land Management Plan. 1979.

This FES includes an annotated time-line of **Colville** Indian--U.S. Government interaction (pp. 23-26). Important recent dates are: February 19, 1975, when the Antoine decision confirmed Indian hunting and fishing rights; and October 21, 1976, **P.L. 94-579** Federal Land Policy and Management Act of 1976 (BLM Organic Act), which specifies that the Forest Service will coordinate with Indians in land use planning.

The **Colville** Tribal Council has expressed concern over what they see as a declining deer population on public lands which are adjacent to the reservation--deer to which the Antoine decision gives them subsistence hunting rights. In a letter responding to the **DEIS**, the **Colville** Confederated Tribes express grave concerns about the apparent Forest Service acceptance of declining game populations, especially deer and rainbow trout (Appendix B.193-196) .

United States Department of Agriculture, Forest Service. Final Environmental Statement, Upper Lewis River Planning Unit Land-Use Plan. 1976.

At the time of the FES, Native Americans comprised 8.3 percent of the population of the Gifford Pinchot Subregion, which is located next to the Yakima Indian Nation. Yakima Indians visit this area each fall to harvest berries. Specific **socio-economic** impacts on Native Americans are not mentioned, although each of the five alternatives specified carrying capacity in terms of visitor days for berry picking (p. 15).

United States Department of Agriculture, Forest Service. Final Supplement To The Environmental Impact Statement For An Amendment To The Pacific Northwest Regional Guide. 2 Vols. 1988.

This Supplement acknowledges applicability of the American Indian Religious Freedom Act of 1978, and goes on to say that Native American Religious practices, inasmuch as they do not disrupt the environment, are compatible with Spotted Owl habitat management.

A letter from the Columbia River Inter-Tribal Fish Commission, comprised of representatives from the Nez **Perce**, **Umatilla**, **Warm Springs**, and **Yakima** Tribes, criticizes the Forest Service for framing the issue as the Spotted Owl versus the entire timber industry. The Commission suggests that the Forest Service protect more old growth timber than suggested in the management plan in order to protect **anadromous** fish habitat as well as the Spotted Owl (p. **G3-147-149**).

A letter from the **Tullalip** Tribes supports protection of Spotted Owl habitat but indicates that the "**DEIS** does not provide an analysis on the impacts and benefits of each alternative to cultural resources, wildlife, water quality, and fish habitat" (p. **G3-151**). They request that these elements be analyzed in greater detail.

United States Department of Agriculture, Forest Service.
Managing Competing and Unwanted Vegetation: Final Environmental Impact Statement. 1988.

"Prior to initiating any proposed vegetation project, a reconnaissance survey is required to obtain an inventory of cultural values. These might include any special local uses of the area by Native Americans for spiritual or cultural **activities**" (p.III-53).

United States Department of Agriculture, Forest Service. **Mount St. Helens Land Management Plan: Final Environmental Impact Statement.** 1982.

This EIS contains a short ethnology of the area. The **Klickitat, Cowlitz, Yakima, Upper Nisqually or Mical, Upper Chinook, Upper Chehalis, and Upper Cowlitz** or Taidnapam are broadly associated with the area around Mount St. Helens. The EIS states that fisheries habitat will be improved when it will significantly benefit stream habitat for **anadromous** species.

United States Department of the Army. **Draft Supplemental Environmental Impact Statement: Yakima Firing Center Proposed Land Acquisition, Yakima Firing Center, Washington.** 1989.

Meetings were held both separately and jointly with the Wanapums, the **Yakima** Indian Nation, and the **Colville** Confederated Tribes. Following is a composite list of their concerns:

- > Continued access to both the existing **Yakima** Firing Center and the proposed land acquisition.
- > The timing and frequency of military exercises to avoid impacts to root crops, fisheries, and wildlife.
- > The coordination of military exercises to avoid conflicts with root gathering and fishing activities.
- > The safety of Native Americans from possible exposure to duds (unexploded munitions) outside the artillery impact area, and possible contamination of root crops from lead or aluminum poisoning from expended munitions (vegetation and soil samples were tested for lead and aluminum contamination--the results were negative).

- > Participation in a cultural resources management plan.
- > Protection of known and unknown burial sites and other religious and sacred areas. (pp. 372, 73)

Native Americans are also concerned about the Army's acquisition of this land because "military use of the land conflicts with their respect and reverence for the land" (p. 4-37).

The Wanapums oppose the land acquisition:

. . . it threatens the practice of their religious beliefs, their culture, their heritage and their future. Specifically, they do not believe the Army can hold the land inviolate or respect unknown burial sites; and they do not believe it is possible for the Army to mitigate their concerns. They fear the mounting cumulative impacts of various changes and damage to the land will soon be so great, the land will turn over and we will all be lost. (p. 3-75).

They use this land for religious purposes--food gathering for sacred ceremonies; it is where children go for vision quests; where they watch over their dead; and where they gather medicines.

The Yakima Indian Nation is concerned that the proposed acquisition threatens Native American culture and their religious leader, Wanapum. They are also concerned about the effects on fisheries of the river crossing exercises (p. 3-75).

The Moses Band of the **Colville** Indian Reservation were forced to leave the Wanapum area, leaving behind burial and religious sites and harvesting areas. They are concerned about vandalism and protecting the sacredness of this area.

Included in this DEIS is an interesting section titled "Historic Perspective on Native American Traditional Territories and Land **Use.**" This section reviews the historical religious and social culture of the area's Native American groups.

United States Department of Commerce. Draft Environmental Impact Statement: **Padilla** Bay Estuarine Sanctuary. 1980.

It was noted that the Swinomish Indian **Tribe's** planned industrial park could "significantly compromise the ecological integrity of the bay in direct and irreversible fashion. It could introduce greater pollution as well as disturbances incompatible with the proposed estuarine sanctuary and probably stimulate further industrial and secondary development in and around the bay" (p. 32). Ownership of these lands is disputed, however. The Swinomish Indian Tribal Community was consulted in DEIS preparation.

United States Department of Energy. Final Environmental Impact Statement: 1982 Rate Proposal, Bonneville Power Administration. 1982.

Although Native American impacts are not specifically addressed, a letter from the Columbia River Inter-Tribal Fish Commission expresses concern that revenues are not being set aside for Congressionally mandated **anadromous** fish protection and habitat enhancement (p. 255) .

United States Department of Energy. Final Environmental Impact Statement: Bonneville Power Administration Proposed Fiscal Year 1980 Program. 1979.

"In constructing the proposed new facilities, local impacts to fishery resources can be expected to occur as a result of construction and maintenance operation. . ." (p. 12) . Native Americans are not mentioned, however this statement indicates an impact with which they are specifically concerned.

United States Department of Energy. Final Environmental Impact Statement: Bonneville Power Administration Transmission Facilities Vegetation Management Program. 1983.

Specific Native American concerns are not addressed in the main body of the **FEIS**, but a letter reprinted in the comments section from the Squaxin Island Tribe expresses concern for possible fisheries impacts of chemical vegetation control (p. 416).

United States Department of Energy. Final Environmental Impact Statement: Disposal of Hanford Defense High Level Transuranic and Tank Wastes. 5 vols. 1987.

Affected Native Americans are descended from the aboriginal Plateau culture. Their traditional religious beliefs share common elements, among which are guardian spirits and shamanistic curing. The EIS states that,

Basic beliefs are contained in an extensive body of mythological oral literature. Important beliefs include the following: The earth and its natural resources are inherently sacred; Guardian spirits are essential to health and good fortune; Illness and misfortune are caused by malevolent spirit powers or soul loss; Disturbances to the earth cause disruption in the spirit world. (p. 4.46)

This **E.I.S.** also notes that, "**Longhouse** ceremonialism, incorporating many of these beliefs and involving first-foods feasts, marriages, funerals, memorials, and **namings**, is well established in the Indian reservation communities today" (p. 4.46).

Treaties with the **Yakimas, Umatillas, and Nez Perce**, which ceded lands on which the Hanford site is located, are discussed. Figure 4.15 on page 4.47 is a map of the ceded lands and current reservation boundaries within the states of Washington, Oregon and Idaho. Tribes in addition to the Yakima, **Umatilla**, and Nez **Perce** that may possibly "make use of the Columbia River . . . for fishing," include the Spokane, **Colville**, and Warm Springs Indians (p. 4.46).


Detailed sections on the Confederated Tribes and Bands of the Yakima Nation (p. 4.46-49), the Reservation for the Confederated Tribes of the **Umatilla** Indian Reservation (p. 4.49-504), and the Reservation for the Nez **Perce** Indian Tribe (p. 4.50-51) are included. Information provided includes locations and size of reservations, employment and census statistics, environmental descriptions, descriptions of reservation economic bases, cultural and ethnographic descriptions, and treaty right agreements. An important aspect is the fact that the "**Hanford** site is the place of the Yakima creation legend, and Gable Mountain is the place where young Yakima boys" were sent for their "vision **quest**" (p. 4.48). All three tribes have Salmon Feast rituals and have subsistence fishing rights in the Columbia River.

United States Department of Energy. Nuclear Waste Policy Act, Environmental Assessment, Reference Repository Location, Hanford Site, Washington. 3 Vols. 1986.

Section 2(2) of the Nuclear Waste Policy Act of 1982 defines an 'Affected Indian Tribe' as any Indian tribe:

- A. Within whose reservation boundaries a monitored retrievable storage facility, test and evaluation facility, or repository for high-level radioactive waste or spent fuel is proposed to be located;
- B. Whose federally defined possessor or usage rights to other lands outside of the reservations's boundaries arising out of congressionally ratified treaties may be substantially and adversely affected by the locating of such a facility; . . . (p. 3-207)

Those tribes granted "Affected Indian Tribe" status for the Hanford area under this act are the Yakima Indian Nation, the Confederated Tribes of the **Umatilla** Indian Reservation, and the Nez Perce Indian Tribe, all as a result of potential adverse impacts on hunting and/or fishing rights. Principal rituals, including the Salmon Feast and the Root Feast, are discussed. Adverse effects from nuclear contamination of the Columbia River include disrupted fishing and disturbance of malevolent spirit powers. The Department of Energy will consult with Indian leaders on relevant issues. References to Department of the



Interior documents are listed, as well as statistical descriptions of reservations of affected tribes.